



# The Gold Book Local Innovative Programs to Improve Air Quality



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# The Gold Book



- **Transportation Land Use Planning**
  - Smart Growth
  - Transit Oriented Development

- **Energy**
  - Green Buildings
  - Wind Purchase
  - LED Traffic Signals
  - Energy Performance Contracting



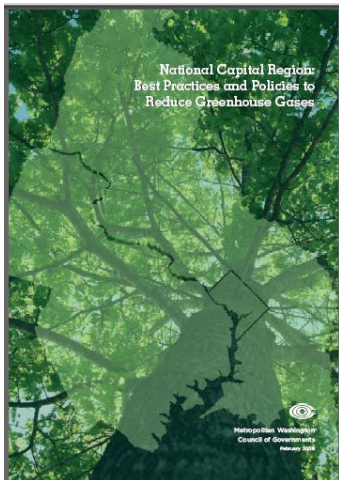
- **Vehicles and Fuels**
  - Low Emission Vehicle Purchase
  - Alternative Fuel Vehicles
  - Idling Reduction
  - Diesel Retrofits



- **Others**
  - Urban Heat Island Mitigation
  - Tree Canopy Programs
  - Enhanced Enforcement
  - Low VOC Paints



# Best Practices Guide



## HIGHLIGHTS:

- Over 2/3 of local governments in the region purchase renewable energy
- Over 1/2 of the jurisdictions have adopted energy efficiency measures
- Nearly 90% of the communities in the region have embarked on transit oriented development and over 80% have "walkable community" initiatives
- About 70% of communities have green space protection and green infrastructure programs
- All communities in the region have recycling programs.

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## Possible New Additions



- **Transportation and Land Use Planning**

- Bike Sharing Programs
- Highway Value Pricing

- **Vehicles and Fuels**

- Plug-in Hybrids
- Vehicle Share Programs
- Nonroad Diesel Retrofits



- **Energy**

- Smart Grid/Advanced Metering
- LED Street Lights
- Clean Distributed Generation
- Thin Film Solar Roofs
- Home Weatherization Programs

- **Others**

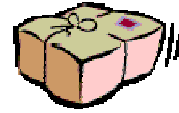
- New incentive and grant programs



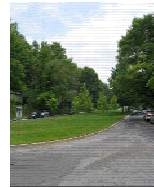
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## Local Initiatives ("Bundle")

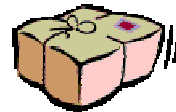


- Expanded or New Programs:
  - Wind Energy Purchases
  - LED Traffic Signal Retrofits
- Included, with no credit:
  - Renewable Portfolio Standards
  - Building Efficiency/Green Buildings
  - Urban Tree Canopy



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## Local Initiatives ("Bundle")



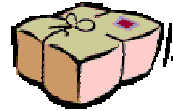
- Commitments carried over from 1-hour ozone SIP:
  - Locomotive Idling Reduction
  - Gas Can Replacements
  - Low VOC Paints
  - Remote Sensing



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## Inclusion of Voluntary Bundle in the SIP

- Emission Benefits (2009)
  - 0.30 tpd NO<sub>x</sub>
  - 0.19 tpd VOC
- Annual Reporting Requirement
- Periodic True-up Evaluation
  - Due March 2010



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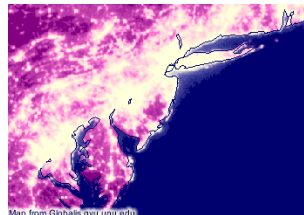
## Additional Voluntary Programs

- Programs for Weight of Evidence:
  - Episodic Programs
  - High Electricity Demand Day Initiative
  - Urban Tree Canopy
  - Telecommute Initiatives



### Carbon Offset Calculator

"Offset" your emissions:  
Help us plant trees.



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## Low-Emission Vehicle Purchases and Diesel Retrofits

- Local jurisdictions
  - Purchase of low-emission vehicles, including transit buses and light duty vehicles
  - Diesel retrofits
- Emission Benefits Reserved for Conformity



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## Clean Air Partners Programs

- AirAlerts (Forecasts and Real-time Health Notifications)
  - More than 2600 individuals registered to receive AirAlerts.
- Aqueous Parts Washer Program
  - Rebates provided to local businesses to purchase low VOC aqueous or microbial parts washers
- “On the Air” Curriculum
  - Educating the Next Generation - More than 1,000 students have received information from the curriculum and outreach programs including 320 from the District of Columbia, 525 from Maryland, and 180 from Virginia.



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# Commuter Connections Programs

- **Commuter Connections Daily Program Impacts**
  - Vehicle Trips 113,000/day
  - Vehicle Miles of Travel 2,300,000/day
  - Nitrogen Oxides (NOx) 1.0 tons/day
  - Volatile Organic Compounds (VOC) 0.5 tons/day
- **Commuter Connections Annual Program Impacts**
  - Carbon Dioxide (CO2) 291,608 tons/year



# Energy and Climate Plans



New State Energy and Climate Plans Involve Significant New Energy Efficiency Initiatives



## Maryland

- EmPower Maryland
- Maryland Climate Action Plan
- RGGI

## Virginia

- Virginia Energy Plan
- Virginia Electric Utility Integrated Resource Planning Law
- Virginia Climate Plan

## The District

- District Sustainable Energy Utility
- DC Climate Plan (pending)

## Local/Regional

- COG Climate Change Plan
- Cool Counties
- Montgomery County Sustainability Plan



## The Importance of the PSC, Utilities, and State Energy Office

- State Mandates Impact PSC and Utility Actions
  - New EE Plans Required
  - Renewable Portfolio Standards (RPS) Targets Rising
- Public Service Commission Review and Approval of Utility EE Plans
  - Within Next Year
  - Plans Include EM&V and Reporting Components
  - Opportunity for Consistency
  - Opportunity to Streamline Data Tracking and Reporting



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## Key Players in State Energy Initiatives

- Maryland
  - Public Service Commission (PSC), Maryland Energy Administration (MEA), Maryland Department of the Environment (MDE)
  - Pepco, Baltimore Gas and Electric (BGE)
- District
  - Public Service Commission (PSC), Department of Environment (Energy and Air Offices)
  - Pepco
- Virginia
  - Department of Mines Minerals and Energy (DMME), State Corporation Commission (SCC), Department of Environmental Quality (DEQ)
  - Dominion



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# Significant New Private Sector Actions

ENERGY EFFICIENCY PARTNERSHIP OF GREATER WASHINGTON

- Energy Efficiency Partnership of Greater Washington/Virginia Tech
  - Energy performance contracting
- Pepco Energy Services
  - Energy performance contracting
- Greater Washington Board of Trade, COG, Clinton Foundation
  - Regional street light efficiency project
- Curtailment Service Providers (CSP)
- PJM DR/EE as Eligible Capacity Resource



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# Potential Emission Benefit

## New State Energy and Climate Plans Involve Significant New Energy Efficiency Initiatives

Total Electric Consumption	181,290,808 MWh (2006)
Total Energy Savings	27,193,621 MWh
Emission Reductions	
NO <sub>x</sub>	33 tons/day
CO <sub>2</sub>	>14 million MT CO <sub>2e</sub> /year

Assumes:

- Assume 15% Reduction
- 8-hour ozone SIP NO<sub>x</sub> emission factor
- DOE CO<sub>2</sub> regional emission factor



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## Large Industrial/Commercial Organizations

- WMATA
  - Hybrid Electric and CNG Buses
  - Bus Rapid Transit
  - Development of Greenhouse Gas Inventory
- Metropolitan Washington Airports Authority
  - Automated people movers, replace mobile lounges
  - Charging Stations for Electric GSE
  - CNG Buses and Fueling Station
  - Metropool and Vanpool Initiatives
  - Utility Building Upgrades
- Drinking Water/Wastewater -- WASA, WSSC
  - Wind energy purchases
  - Energy recovery from process



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## Summary

- SIP Voluntary Bundle
  - 1-hour ozone, 8-hour ozone, PM SIP, Upcoming SIPs
  - Annual Reporting/True-up in 2010
- Gold Book
  - Most recent update 2006
  - Climate Change Best Practices Guide
- New State, Regional, Local Climate and Energy Plans
  - Maryland, Virginia Climate Action and Energy Plans
  - DC Sustainability Plan
  - COG Climate Change Plan
- New Private Sector Initiatives
  - Energy Efficiency Partnership of Greater Washington
  - Greater Washington Board of Trade Street Lights Initiatives
  - Utility Energy Conservation Programs



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## For Further Information

- Please see the following websites:

<http://www.mwcog.org/environment/air/documents.asp>

<http://sharepoint.mwcog.org/airquality/default.aspx>

[http://www.mwcog.org/store/item.asp?PUBLICATION\\_ID=334](http://www.mwcog.org/store/item.asp?PUBLICATION_ID=334)

[http://www.mwcog.org/store/item.asp?PUBLICATION\\_ID=321](http://www.mwcog.org/store/item.asp?PUBLICATION_ID=321)

