

Energy Efficiency and Renewable Energy in State Implementation Plans

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Current Approach

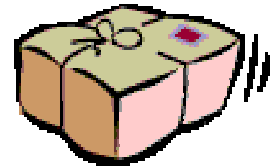
- Goal:
 - Include EERE in SIPs for the metropolitan Washington region.
- Success:
 - 1-Hour Ozone, 8-Hour Ozone and PM_{2.5} SIPs
 - Local Voluntary Initiatives
 - Weight of Evidence
- More will be needed to meet new lower standards and climate change goals.





EERE Local Initiatives (“Bundle”)

- Programs Included:
 - Wind Energy Purchases
 - Clean Energy Rewards Programs
 - LED Traffic Signal Retrofits
 - Renewable Portfolio Standards
 - Building Efficiency/Green Buildings
 - High Electricity Demand Day (HEDD) Initiative



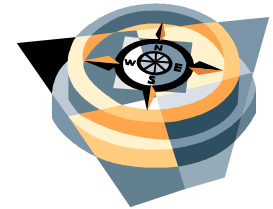
Success Factors

- State and Local Leadership
- Enabling Regulations and Guidance
 - NOx SIP Call
 - Clean Air Interstate Rule (CAIR)
 - EPA Voluntary Measures Guidance
- Commitment to Tracking and Reporting
- DOE/NREL: Funding and Technical Assistance
- NOx Calculator



Inclusion of Voluntary Bundle in the SIP

- Emission Benefits (2009)
 - 0.30 tpd NO_x
- Annual Reporting Requirement
- Periodic True-up Evaluation



Moving Beyond the Voluntary Bundle



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 Action 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
 - Plans Include EM&V and Reporting Components
 - Data Tracking and Reporting



Key Players



- 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





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	
NOx	33 tons/day
CO ₂	>14 million MT CO _{2e} /year

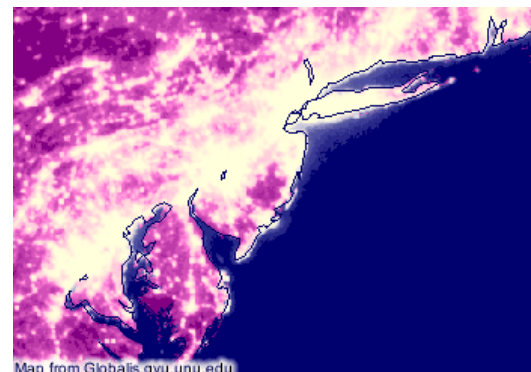
Assumes:

- Assume 15% Reduction
- 8-hour ozone SIP NOx emission factor
- DOE CO₂ regional emission factor



How it Could Work

- Utilities Implement Programs and Conduct Evaluation/Masurement/Verification (EM&V)
- Utilities Report Program Impact Data (kWh saved) Annually to Public Service Commissions
- States Report Emission Benefits in Upcoming SIPs. Options:
 - Baseline Projections
 - Mandatory Control Measure
 - Voluntary Bundle Measure
 - Weight of Evidence



Steps in Protocol Development

- Ad-hoc Workgroup
 - State and local air and energy officials (MD-DC-VA)
 - Reviewed EM&V Options
 - Developed Emission Calculation Tool
 - Researched Baseline Emission Projection Approach
 - Compiled Information on Procedures and Authority
 - Assessed needs and interests of stakeholders
- Coordination with Regulatory Agencies
 - EPA OAQPS, EPA Region III, EPA State and Local Branch, Ozone Transport Commission, State Air Agencies
 - Overview of Recommendations
 - Determination of Acceptability



Criteria to Screen Options

- Technical adequacy
- Can be accomplished within existing resources
- Is an approved option within the relevant regulatory context
- Does not create problems for future planners and regulators



Stakeholder Needs and Interests

- Local Governments
 - Willing to share information on energy efficiency and renewable energy programs
 - No resources to conduct rigorous EM&V
 - No urgency in seeking emission credits
- State Energy Offices/PUCs/Utilities
 - Willing to collect data and track progress
 - No established formal reporting relationship between SEOs/PUCs and State Air Agencies
- State Air Agencies
 - High value of EERE with particular emphasis on high electric demand day initiatives
 - Importance of EERE for short term climate and energy action plans
 - Uneasy about taking credit for programs not within their regulatory control

Protocol Recommendation

- Local Government Energy Efficiency Programs
 - Include in Voluntary Bundle with or without credit
 - Include in Weight of Evidence
- State/Utility Energy Efficiency Programs
 - Include in Weight of Evidence
 - Do not establish formal reporting process for SIPs at this time
 - Develop voluntary reporting program to assist with tracking progress on regional climate and energy action plans
- State Air Agencies
 - Understand which EERE programs are reflected in the ROP/Attainment Year baseline emission projections
 - Attainment modeling sensitivity results to assess possible range of impacts for use in weight of evidence
 - Method to incorporate high electric demand day measures in weight of evidence



SIP Creditable Reductions

- All Require NOx Allowance Retirement
- What is Basis?
 - Renewable Energy = RECs
- Basis for Energy Efficiency?
 - Is Rigorous EM&V and Adjusting for weather and occupancy sufficient?
 - Possible Solution = Cleared Contract in PJM EE Capacity Market



Contents of Protocol

- Program List
- EM&V Standard
- Overview of SIP Options/EPA Guidance
- Emission Calculator plus Fact Sheet
- Documentation on Authority and Process for Allowance Retirement
- Regional Database of Energy Efficiency Benefits
- Resource List

Adopt as a living document, modify and update over time.

