

# Energy Efficiency/Renewable Energy and Air Quality Training

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# EE/RE – SIP Background

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- Renewing implementation of EE/RE guidance
- What EPA is making available
- Elements and steps for incorporating EE/RE in SIPs
- Potential SIP EE/RE policies, programs and measures
- Release of the manual
- Applying the EPA Manual to Example from Virginia

# EE/RE – SIP Background

- EPA's 2004 guidance has yielded few examples of EE/RE integration in SIPs
  - Voluntary control measures in 1-hour and 8-hour ozone SIPs  
Washington, DC Region
  - Control measure in Dallas, TX 8-hour ozone SIP
  - Voluntary control measure in 8-hour-ozone EAC SIP revision for  
Shreveport, Louisiana
  - Connecticut WOE demonstration in 8-hour ozone SIP
- Variety of reasons states have not implemented guidance

# Time is Right to Renew Implementation of EE/RE Guidance

- Significant growth in state investments in electric EE programs to over \$4 billion in 2010
- Twenty-nine states (and DC) have adopted renewable portfolio standards
- States need to find greater emission reductions to meet revised NAAQS
- Information on the energy and emissions impacts of EE/RE is increasingly widely available

# What EPA is Making Available

- Manual that serves as a roadmap to existing EE/RE guidance
  - Detailed and comprehensive
  - Accessible and easy to read
  - Provides four different pathways for incorporating EE/RE policies and programs into SIPs
  - Includes four approaches for quantifying EE/RE emissions impacts
- Tools to quantify the emissions benefits of EE/RE strategies
  - Capacity Factor Emissions Calculator (CFEC)
  - Hourly Marginal Emissions Tool (HMET)
- Energy savings information for state EE policies
- Training on the electric energy sector

# Baseline Emissions Projection Pathway

- Incorporation of the impact of EE/RE policies and programs in SIP/TIP EGU emissions forecast
- Best suited for already adopted EE/RE policies and programs

## Task Checklist:

### Baseline Emissions Projection Pathway

- ✓ Identify and describe EE/RE programs and policies to include
- ✓ Ensure they will be in place for the duration of the planning period
- ✓ Perform an analysis of the expected energy impacts
- ✓ Ensure EE/RE emission reductions in the baseline emission projections are not accounted for elsewhere in SIP

# Control Strategy Pathway

- Incorporation of EE/RE policies and programs in a SIP/TIP as a control strategy
- Best suited for new EE/RE policies adopted after emissions forecast preparation but before it submits its SIP/TIP to EPA

## Task Checklist:

### Control Strategy Pathway

- ✓ Identify and describe the EE/RE programs and policies to include
- ✓ Demonstrate they are permanent
- ✓ Estimate the magnitude of potential emission reductions before undertaking more comprehensive analysis
- ✓ Demonstrate EE/RE programs and policies are surplus
- ✓ Ensure EE/RE programs and policies are federally enforceable

# Control Strategy Pathway

## Permanent

- Evidence that regulation or legislation is mandated throughout attainment planning period

## Enforceable

- EPA has ability to enforce EE/RE policies and programs brought into SIPs as control strategies
- Federal enforceability is key for expanded SIP credit

## Quantifiable

- Use a reliable and replicable emissions quantification approach that illustrates which EGUs will reduce emissions based on EE/RE policies and programs

## Surplus

- Document no double counting of emissions reductions
- Demonstrate emission reductions are not used for other CAA requirements (e.g., under a cap and trade program)



# Emerging/Voluntary Measures Pathway

- Incorporation of the impact of EE/RE policies as emerging and/or voluntary EE/RE measures (i.e., those that are difficult to enforce and/or quantify)
- Best suited for locally-based initiatives designed to encourage or require citizens, businesses or local government to reduce emissions

# Emerging/Voluntary Measures Pathway

## Task Checklist:

### Emerging/Voluntary Measures Pathway

- ✓ Identify and describe the emerging/voluntary EE/RE policies and programs
- ✓ Calculate emissions reductions
- ✓ Make an enforceable commitment to:
  - ✓ Implement those parts of the measure for which the agency is responsible
  - ✓ Monitor, evaluate, and report at least every three years on progress toward emission reductions
  - ✓ Remedy any SIP/TIP credit shortfall
- ✓ Certify EE/RE policies and programs are permanent
- ✓ Certify EE/RE policies and programs are surplus

# Emerging/Voluntary Measures Pathway

## Permanent

- Should be fully implemented during the term for which emission reductions are granted

## Enforceable

- Flexibility for voluntary measures by requiring agency to assure that emission reductions credited in the SIP/TIP occur
- Agencies would commit to monitor, assess and report on emission reductions resulting from voluntary measures and to remedy shortfalls

## Quantifiable

- For emerging/voluntary measures, presumptive SIP credit limit is 6 percent
- Flexibility for emerging measures to receive provisional SIP credit upfront when quantification uncertain

## Surplus

- Jurisdictions cannot “double-count” emissions

# Emerging/Voluntary Measures Pathway

- Examples of voluntary EE/RE measures:
  - DC Region (via the MWCOG)
    - Voluntary control measures in 1 hour and 8 hour ozone SIPs
    - Wind energy purchase and LED traffic lights
  - TX and Shreveport, LA
    - Voluntary control measure in 8 hour ozone early-action compact SIP revision (LA)
    - EE measures in municipal buildings (LA)
    - EE measures, including in new buildings (TX)

# Weight of Evidence Pathway

- Incorporation of the impact of EE/RE policies as part of a WOE demonstration
- Analyses may be used in a *weight of evidence determination* to show that attainment is likely despite inconclusive modeled results
- Analyses can include the impact of EE/RE policies and programs
  - Best suited for EE/RE policies and programs where modeling the impacts is either too resource intensive or not feasible for other reasons and/or the jurisdiction is not interested in SIP/TIP credit
- State of CT included impact of EE programs as “weight of evidence” in the 8-hour ozone SIP submitted to EPA in 2007

# Weight of Evidence Pathway

## Task Checklist: Weight-of-Evidence Pathway

- ✓ Identify and describe the EE/RE policies and programs to include
- ✓ Ensure they will be in place for the duration of the planning period
- ✓ Perform an objective analysis of the benefits expected
- ✓ Ensure that any EE/RE emission reductions included in the WOE demonstration are not double counted

# Important Elements for Successful Incorporation of EE/RE in SIPs

- EE/RE policies and programs
  - More aggressive state-wide policies produce greater potential emission benefits
    - For example, the higher the percentage target of a state-wide renewable portfolio standard, then the greater the potential emission benefit
- Dialogue with energy agencies
  - Establishment of strong working relationships and partnerships among energy and environmental agencies within a state or locality
    - Greater understanding of the details of relevant EE/RE policies and the associated emission benefits
    - Transfer of energy information needed for SIP documentation
    - Facilitate successful monitoring of compliance with adopted EE/RE policies

# Important Elements for Incorporating EE/RE in SIPs

- Quantification of whether and to what extent the EE/RE initiative is affecting a particular nonattainment area
  - Appendix I of the roadmap describes emission quantification approaches states can apply to understand the magnitude and location of EE/RE policy and program emission impacts



# Initial Steps States Can Take

- Learn about:
  - Existing EPA EE/RE SIP guidance
  - EE/RE policies and programs in the jurisdiction
  - Electric energy system
  - Roles and responsibilities of key state energy-related organizations
- Determine magnitude of potential emission benefits
  - Need to conduct initial screening analysis to see what potential could come from a jurisdiction's EE/RE policies and programs

## Examples of Potential SIP EE/RE Policies, Programs and Measures

- Energy Efficiency Resource Standards
- State energy efficiency appliance standards
- State-mandated municipal government electricity consumption reductions
- Renewable energy generation exceeding a state Renewable Portfolio Standard
- Local Renewable Energy Certificate (REC) purchases

# Release of the Manual

- Plan to issue first version of manual in coming weeks
- Providing technical assistance, tools and training
- State, tribal and local governments are encouraged to take proactive steps to keep their air clean
  - New Ozone Advance Program (issued April 4, 2012)
  - Seven areas are now participating in the program
    - Several more are expected to join soon
  - Areas in Virginia have expressed an interest in the program
  - For more information:
    - [www.epa.gov/ozoneadvance](http://www.epa.gov/ozoneadvance)
    - Laura Bunte, 919/541-0889

What else do you need from us?

# Applying the EPA Manual to Example from Virginia

- Enacted by the VA Legislature in 2007
  - Voluntary Goal:
    - By the year 2022, reduce the consumption of electric energy through the implementation of cost-effective energy efficiency programs by an amount equal to 10% of the amount consumed in 2006.
- Discussion