# SIP Pathways & HEDD

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# The Challenges to Overcome

- Base inventory doesn't accurately reflect peak day emissions, guidance calls for average summer day
- Section 123 of the CAA precludes SIPs from relying on episodic stationary source controls that vary with weather conditions
- Many SIP paths require reductions from the baseline inventory be made federally enforceable
- Quantification of non-traditional strategies is resource intensive

# EPA Partnering with States to....

- Promote energy efficiency
- Leverage P2 benefits and cost effectiveness of energy efficiency to support air quality and energy goals
- Streamline and simplify quantification to facilitate SIP credit for non-traditional measures
- Find practical solution to our energy and ozone challenges

# SIP Guidance Identified

- January 2001- Improving Air Quality with Economic Incentive Programs
- January 2001- Incorporating Voluntary Stationary Source Emission Reduction Programs into SIPs
- September 2004 - Incorporating Emerging & Voluntary Measures in a SIP
- August 2004 - SIP Credits for Emission Reductions from Electric-Sector EE and RE Measures
- August 2005 - Incorporating Bundled Measures in a SIP

# Economic Incentive Programs

- Concepts:
  - Some sources reduce beyond what is required and trade surplus reductions
  - Other incentives
- Must have a State rule that is federally enforceable
- Types: emissions averaging, source-specific caps, multi-source cap and trade, open market trading, fees/taxes/subsidies, investment fund, public information
- Reductions must be surplus, quantifiable, enforceable, and permanent

# Voluntary Stationary Source Emission Reduction Programs

- Can be continuous, seasonal or in some cases episodic. Episodic can be based on high demand.
- If not achieved, the state is responsible for making up the shortfall
- Can't interfere w/ other CAA requirements
- Voluntary and emerging measures are, in total, limited to 6% of reductions needed for attainment demo or ROP (an additional 3% can come from mobile voluntary measures)
- Must commit to initial evaluation of effectiveness within 18 months and correct any shortfall with 2 years

# Emerging & Voluntary Measures

- Less certainty, so initial evaluation after 18 months as well as monitoring, reporting and evaluations every 3 years.
- Can be continuous, seasonal or episodic. Stationary source measures can't depend on weather. (40 CFR 51.100(nn))
- Presumptive limit is 6% of emission reductions required from base year inventory for attainment demo or ROP.
- Must be surplus and permanent or replaced by another measure. Measure can expire if replaced by another measure.
- State must commit to take corrective action if reductions don't occur.

# Reductions From Electric-Sector EE and RE Measures

- Both Dallas/Fort Worth & WDC included explicit emission reductions in their SIPs from EE or RE
  - DFW SIP NOx reductions 0.7 tpd in 2007
  - WDC SIP NOx reductions 0.05 tpd in 2007
- Very detailed step-by-step procedure for quantifying SIP credit:
  1. Estimate the energy savings or amount of energy generation that will be displaced by the new generator
  2. Convert the energy impact of a project or initiative into an estimated emissions reduction
  3. Determine the impact from the estimated emission reduction on air quality in the non-attainment area
  4. Provide a mechanism to validate or evaluate the effectiveness of the project or measure.

# Bundled Measures

- Intended for stationary source measures that don't meet enforceability (voluntary) and/or quantification (emerging) requirements
- Means to aggregate area source strategies from aggregated emissions in the SIP inventory
- Can be applied continuously, seasonally or for episodic periods (but recall limitation for stationary sources)
- SIP would include each measure in the bundle, projected emission reduction attributable to each measure in the bundle and sum of the bundle, enforceable commitment to implement, monitor, evaluate and report every 3 years as well as commit the State to make up any shortfall in a timely manner

# All SIP Paths Require

- To claim SIP credit for a measure, it must be:
  - Quantifiable*
  - Surplus
  - Federally Enforceable**
  - Permanent
- EE/RE measures are often emerging and/or voluntary measures
- Challenging to show that EE/RE measures are surplus in areas subject to a cap and trade program. Possible ways: (1) retire emission allowances or (2) precise modeling

•EPA policies allow flexibility in meeting this requirement for ***emerging measures*** that do not have the same high level of certainty as traditional measures for quantification purposes

** EPA policies allow flexibility in meeting this requirement for ***voluntary measures*** which are not directly enforceable against an individual source

# General Examples of EE Measures

- Appliance standards
- System benefit funds that install energy efficient technologies
- Improved energy codes
- Government equipment purchasing standards
- Utility-run demand side management programs
- Required or voluntary government energy performance improvement projects
- Reducing energy consumption in buildings or by businesses

# Proposed SIP Paths for HEDD Options

- EE Efforts
  - Maximize regional EE efforts and quantify benefit of the OTC state required energy efficiency efforts by quantifying kw benefit, emission benefit
  - Develop SIP narratives describing each state's program, commit to reporting on results to EPA in 18 months and then every 3 years, and making up any shortfall
  - Needs:
    - simplified spreadsheet mechanisms to do quantification and reporting
    - OTC-wide estimated emission benefit quantification for modeling/attainment plans

# Proposed SIP Paths for HEDD Options

- Updating DG regulatory framework
  - Traditional SIP path, adopt regulations
  - Do not explicitly trigger requirements based on atmospheric conditions
  - Needs:
    - Develop inventory/estimate of emissions from units that aren't accurately quantified today

# Proposed SIP Paths for HEDD Options

- Trading Scenario
  - Decide if CAIR-based or not
  - Do not trigger based on atmospheric condition, instead consider trigger on electric demand
  - Will require regulations, so path will be CAIR-based or economic incentive program

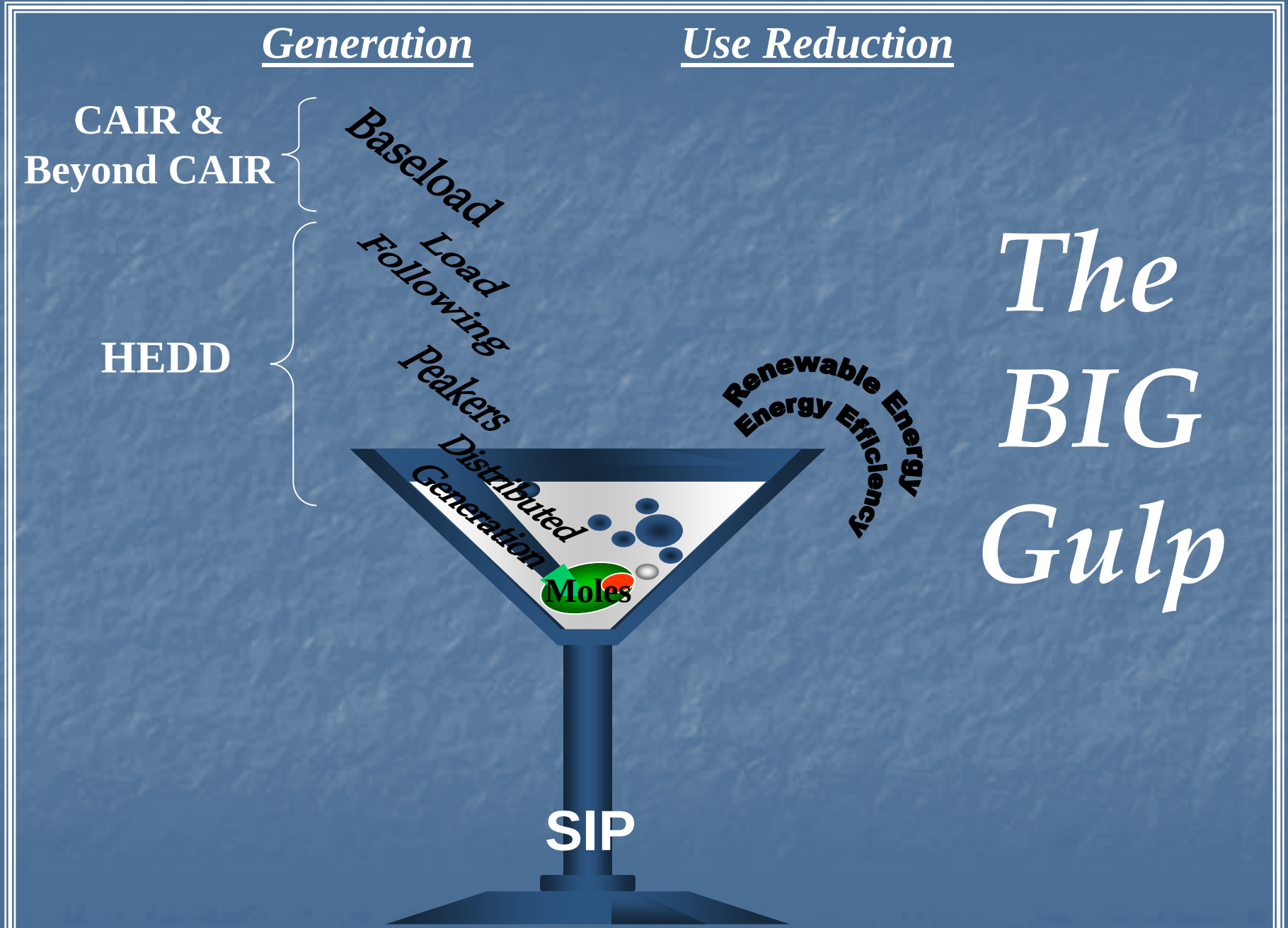
# Proposed SIP Paths for HEDD Options

- Incentives
  - Energy funding mechanism required by ISO or PUC; similar path to EE
  - Performance standards fit traditional SIP path
  - Environmental dispatch driven by a price adder by rule; similar path to EE
  - Real-time consumer pricing mandated by PUC; similar path to EE
  - MOU with generators for the 15 MW and larger units, transmission companies, and/or aggregators; similar path to EE

# Next Steps

- Estimate high to moderate bounds of regional EE commitment and commensurate emission benefit.
- Negotiate reduction commitment and mechanism with HEDD unit owners in lieu of performance standard.
- Estimate peak day emissions impact of DG and peak shaving units LT 15 MWs. Develop regulatory enhancements and quantify emission benefit.
- Define a specific trading option for OTC Commissioners to consider.
- Continue to explore/frame incentive ideas.

# The BIG Gulp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CAIR & Beyond CAIR
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Energy Efficiency
Moles
SIP