GHG Considerations for a NC Point Source Emission Inventory + TCR, etc.

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NC Department of Environment and Natural Resources
NC & GHG

SHTINKY’S TO-DO LIST...

TO HELP STOP GLOBAL WARMING –

1. STAY COOL

muttscomics.com
Basic Purposes and Intents for This Presentation

✓ Give a brief overview of the NC climate action history and status.
✓ Explain NC’s plan for merging the routine Criteria/HAP/TAP emission inventory and the GHG inventory.
✓ Provide audience with some background and insights into “The Climate Registry” and what it might mean to them and their state.
Background – CSA CO$_2$ Reports

- CSA Passed 2002 mainly for NO$_x$ and SO$_2$ controls and reductions
- Section 13 required 3 reports by DAQ on Sept. 1, 2003, 2004 and 2005 on CO$_2$
  - 2003 Report was “State of Science”
  - 2004 Report was “Range of Options”
  - 2005 Report contained Commitments and “Recommendations”
Two Separate, But Coordinated, Activities

- Climate Action Plan Advisory Group (CAPAG)
  - DENR Initiated & Managed
  - Derived from Clean Smokestacks Act
  - Focus on Mitigation Options & Economic Benefits

- Legislative Commission on Global Climate Change (LCGCC)
  - Legislature Initiated Late 2005
  - Guidance on Seriousness of Problem for NC
  - Goal/Caps for Reduction in GHG?
  - Mitigation Options?
CAPAG

Develop Climate Action Plan

- ~ 40+ Stakeholders from wide sectors identify/prioritize range of individual mitigation options (300+)
- Technical Consultant & five NC work groups complete technical/economic analysis of selected options (53+)
  - Quantify GHG Emissions Reduced (CO$_2$e)
  - Analysis/Estimates of Cost / Benefits
  - Includes Jobs-Potential Estimates
- Consensus of Advisory Group Determined
- Support Commission on Global Climate Change
Mitigation Option Sectors (TWGs)

- Agriculture, Forestry and Waste Management
- Energy Supply
- Residential, Commercial, Industrial Energy Use
- Transportation and Land Use
- Cross-Cutting
LCGCC

Established by Legislature in 2005 Session
34 Members; inc. 18 Legislators – Others-
Broad Cross Section of Stakeholders
Assess Impacts of Climate Change on NC
Need for Goal of GHG Reductions in NC
If “Cap” is needed, how stringent?
What Executive and/or Legislative actions are recommended?
Interim Report – Soon
Final Report April 15, 2008
Relation of CAPAG to the LCGCC

- CAPAG/DAQ efforts complement and support Commission
  - Technical Support and advice on GHG Reduction Options, Including Costs-Benefits, Jobs, etc.
  - Several LCGCC members on CAPAG and Technical Workgroups (TWGs)
CAPAG Adopted Options

re: registries, etc (only)

Cross Cutting (CC) early recommendations:

- GHG Inventories and Forecasts
- GHG Reporting
- GHG Registry

These boil down to adapting current EI process (first for TV point sources) and adding to expanding GHG-specific efforts

- NC will initiate a mandatory TV GHG inventory for CY 2008, reporting June 30 2009
- Lots of prep work still required before then
<table>
<thead>
<tr>
<th>GHG</th>
<th>CAS</th>
<th>de minimis (pounds)</th>
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<tr>
<td>HFC</td>
<td>hydrofluorocarbons</td>
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<tr>
<td>13453526</td>
<td>HFC-23 (Fluoromethylene)</td>
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<td>HFC-125 (C2HF5)</td>
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<td>HFC-236fa (C3H2F6)</td>
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<td>HFC-152a (1,1-Difluoroethane)</td>
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<td>HFC-134a (1,2,2,2-Tetrafluoroethane)</td>
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### GHG to Report-2 (ct’d)

<table>
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<tr>
<th>PFC</th>
<th>Perfluorocarbons* <em>(mainly solvents)</em></th>
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<td>Perfluorohexane (C6F14)</td>
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<td>75467</td>
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<td>75730</td>
<td>Perfluoromethane (CF4)</td>
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<td>Perfluoroethane (C2F6)</td>
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<td>76197</td>
<td>Perfluoropropane (C3F8)</td>
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<tr>
<td>7783542</td>
<td>Nitrogen Trifluoride (NF3)</td>
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### GHG to Report-3 (ct’d)

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<th>De minimis (pounds)</th>
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<tr>
<td>10024972</td>
<td>Nitrous Oxide (N\textsubscript{2}O)*</td>
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<tr>
<td>124389</td>
<td>Carbon Dioxide (CO\textsubscript{2})*</td>
</tr>
<tr>
<td>2551624</td>
<td>Sulfur Hexafluoride (SF\textsubscript{6})*</td>
</tr>
<tr>
<td>74828</td>
<td>methane</td>
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</table>
The Climate Registry (TCR), aka the “multi-state registry”

- NC represented on formational work group
- Approximately 30 (+) states have expressed interest; All states invited to join.
- Decisions due in late April (NC, 30 other states, 2 tribes and 2 Canadian Provinces signed up)
- Governed by a board and chartered as a 501 (c) 3, not for profit
- Based mostly on California system (CARROT)
New! NACAA/Air Directors Principles

- NACAA membership “just” approved a statement of principles on global warming that support:
  - Adopting a mandatory economy-wide program to reduce greenhouse gas (GHG) emissions,
  - that is flexible & allows a additional strategies to be adopted.
  - recognition of the federal lead on an economy-wide program but with a strong role for states and localities.
  - A strong recognition that federal legislation should not limit state or local governments from more stringent actions.
TCR Considerations and Issues
To Be Determined/resolved

✓ Basic Definitions, e.g. *inventory* vs *registry*?
✓ Voluntary vs Mandatory?
✓ Means for data entry into TCR?
✓ Submitted by facility or through state?
✓ Third party certification required, but means to define, train, provide, etc. certification credentials and/or certification services?
✓ Baseline year or years?
✓ How to handle existing acid rain reporting for CO₂ by EGU’s?
TCR Considerations and Issues
To Be Determined/resolved-2

- Methods to calculate/estimate emissions?
- Routine interface with Agency Criteria/HAP emission inventory or independent system?
- Facility and Equipment ID numbers?
- Any purpose to associate stack/location information? (Much different than SIP EI)
- Reasons for any difference in reporting dates?
- How count “bio” emissions – all contribute to atm. conc.
TCR Considerations and Issues
To Be Determined/resolved-3

✓ Facility Ownership Issues.
  ✓ Facility (entity) only?
  ✓ Company wide?
  ✓ National or international or other geographical?
  ✓ By financial/organizational structure?
  ✓ Report totals each year or also include “reduction projects” and diminished emissions for banking/sale?
  ✓ Deal with the age-old nemesis of proprietary/confidential data submittals – Some states (NC) can’t handle well.
TCR Considerations and Issues To Be Determined/resolved-4

✓ Questions to answer at beginning:
  ✓ Why is the GHG inventory needed? What will its uses be?
    ✓ Cap on State Emissions?
    ✓ Trading/Sale?
    ✓ To allow/facilitate sources to showcase their environmental conscience and marketing aspects?
    ✓ To assist in developing other mitigation options for others?
    ✓ Others?
Questions?

Discussions among audience?

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