Maine Building Facilities and Manufacturing Work Group Update

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BFM Inventory and Baseline

K MTCO2e = Thousand Metric Tonnes of Carbon Dioxide Equivalent
Baseline Update

- CO2 emissions from fossil fuel combusted on-site at residential, commercial, and industrial facilities (pending)
  - Projections to be based on NEMs model results and Maine-specific population, GSP, and industrial GSP component
  - Waiting stakeholder decision on pop and GSP forecast
  - Waiting for further information on Maine-specific industrial growth indicator – WG expects little industry growth over term of forecast

- High global warming potential (GWP) gas emissions from ozone depleting substance (ODS) substitutes (final)
  - Moved to commercial sector since majority of emissions are from refrigeration
Baseline Update, Cont’d

- Industrial Process Emissions (final)
  - **CO2 emissions from cement production**
    - Updated with company-specific data for Maine
  - **High GWP gas emissions from semiconductor manufacture**
    - Updated with company-specific data for Maine
  - **Emissions from limestone and dolomite use zeroed out**

- Emissions from transmission and distribution (pending)
  - **Methane emissions from natural gas T&D**
    - Forecast includes one new LNG plant built in 2010
  - **SF6 emissions from electricity T&D**
Status of Work Group

- WG very engaged, lot of work designing policies and pulling together information, productive discussions
- Interested in showing baseline emissions also on a per unit basis for industrial sector
- In addition to priority measures identified by the stakeholder group, the WG added these measures
  - BFM 3.8 Commercial and Institutional Electrical Efficiency Measures
  - BFM 3.9 Procurement Preference
  - BFM 4.8 Specify ASTM specification C150 for portland cement
  - BFM 5.4 Green Power Incentive
  - BFM 5.5 Natural Gas and Oil Conservation Fund
- Began to identify consensus recommendations
Consensus Recommendation

- BFM 1.1: EE Appliance Standards
  - Set minimum levels of efficiency for 8 specific commercial and residential appliances

- BFM 2.1: Improve and Enforce Residential Building Energy Codes, subject to the PUC Process
  - Includes discussion of BFM 2.2 Enforce Codes

- BFM 3.9: Procurement Preference
  - Specify procurement preference for concrete and concrete products that contain a min of 20% of ground granulated blast furnace slag for publicly funded projects, as long as cost effective
Residential Measures Under Discussion

- **BFM 2.3** Voluntary Green Building Design Standards
  - WG discussing incentives to go beyond the building energy code
  - Include discussion of BFM 2.4 EE Mortgages

- **BFM 2.6** Efficient use of oil and gas: home heating
  - WG is looking at opportunities to improve EE within fuel type NOT fuel switching
  - WG considering broadening measure to efficient use of other fuel types
  - WG sub-committee working on program description and emission reduction estimates
**Commercial and Institutional Measures Under Discussion**

- BFM 3.1  Energy standards for new construction/renovation for State and State-funded bldgs
- BFM 3.2  Promote EE buildings (beyond code)
- BFM 3.3  Implement the most cost-effective energy savings in State buildings
- BFM 3.5  Load Management
  - WG sub-committee developing program description and emission reduction potential
Commercial and Institutional Measures Under Discussion, Cont’d

- BFM 3.6 Green Campus Initiatives
- BFM 3.7 Improve enforcement of commercial building energy codes
- BFM 3.8 Commercial and Institutional Electrical Efficiency Measures
  - Incorporate recommendations from Optimum Energy study developed for Maine Public Advocate
  - Includes high efficiency lighting, AC, building system controls, enhance envelope measures, appliances, motors, VFD, refrigerators
Industrial Measures Under Discussion

- BFM 4.1 Increase industrial electrical efficiency
  - Incorporate recommendations from Optimum Energy study developed for Public Advocate
  - Includes high efficiency lighting, ventilation and cooling, process controls, building system controls, VFDs, air compressors

- BFM 4.2 Participate in voluntary industry-government and/or industry only partnerships

- BFM 4.3 Leak reduction programs
  - WG discussed methane leaks from natural gas pipelines, SF6 emissions from electricity sub-stations, and HFC leaks from refrigeration systems

- BFM 4.4 Substitution of High GWP Gases
Industrial Measures Under Discussion, Cont’d

- BFM 4.5 Industrial ecology/by-product synergy
  - Case-studies from cement and pulp and paper industry

- BFM 4.6 Negotiated Agreements
  - Investigating potential to incorporate GHGs in Maine “Supplemental Environmental Performance” regulation

- BFM 4.7 Encourage Combined Heat and Power
  - WG Sub-committee working on this

- BFM 4.8 Specify ASTM specification C150 for portland cement
Comprehensive Measures Under Discussion

- BFM 5.2 Expand public benefit fund
  - WG discussed the difference between this option (a financing mechanism) and other options under consideration
  - WG concern over potential double-counting with other measures proposed (e.g., BFM 3.8 and BFM 4.1)

- BFM 5.4 Incentives for green power purchase

- BFM 5.5 Natural gas and Oil conservation fund
  - WG discussed the difference between this option (a financing mechanism) and other options under consideration
Measures No Longer Under Discussion

- Passed on to Education WG
  - BFM 2.5 Education to Homeowners
  - BFM 5.3 Public Education

- Covered by Other Measures
  - BFM 3.4 Shared Savings Program for Government Agencies
  - BFM 5.1 Government Agency Requirement and Goals
Next Steps

- Finalize BFM baseline based on input from SAG and industrial component of GSP forecast
- BFM sub-committees and CCAP report back to WG with updated program descriptions and GHG emission reduction and cost estimates
- Final WG recommendations for SAG consideration will occur at next WG meeting
Summary of WG Concerns

- Need for economic forecast concerning industry to reflect little expected growth
- Desire to also take into account per unit emissions when considering measures affecting the Industrial Sector
- Recognition that the WG may reach consensus on need for action to accomplish GHG reduction, but may not reach consensus on the mechanism