



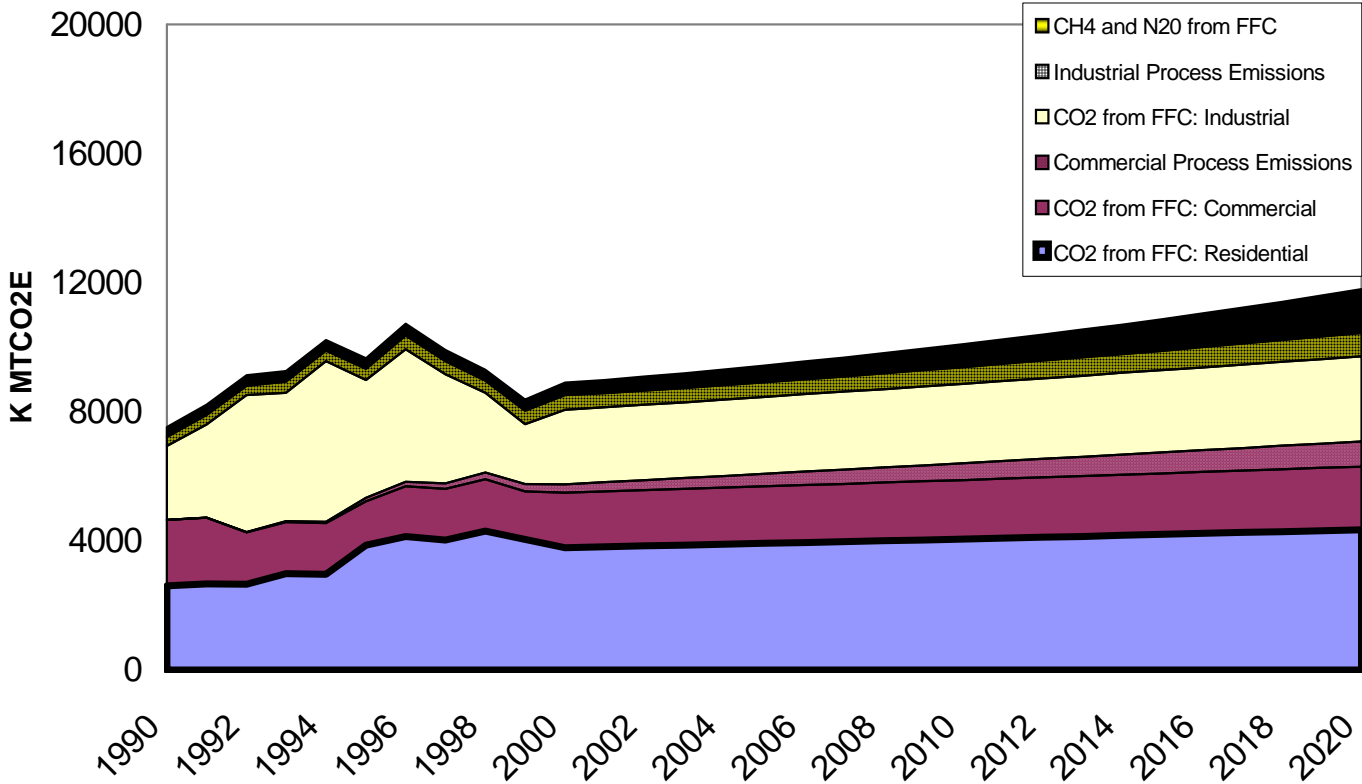
# **Maine Building Facilities and Manufacturing Work Group Update**

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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