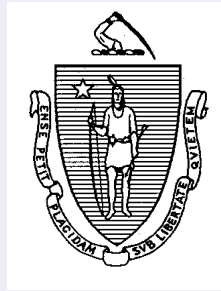


COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Mandatory Reporting of Greenhouse Gas Emissions
Stakeholder Meeting
December 9, 2008

Agenda

- 9:30-9:45 Introductions, background, and process
- 9:45-10:15 Discussion of limited emergency regulation
- 10:15-10:45 Process for developing comprehensive regulation
- 10:45-11:45 Introduction of comprehensive regulation issues
- 11:45-12:00 Next steps and future meeting(s)

Why Was I Contacted About This Meeting?

- MassDEP contacted facilities that may be subject to new reporting regulations based on:
 - Estimated emissions from historic fuel usage
 - Appendix C Status
- MassDEP contacted greenhouse gas Stakeholders

The Global Warming Solutions Act (GWSA)

Background

- Signed by Governor Patrick on August 7, 2008.
- Sets in motion a process to reduce greenhouse gas (GHG) emissions in MA
 - 10-25% by 2020
 - 80% by 2050
- Requires mandatory reporting of GHG emissions
 - Regulations must be adopted by January 1, 2009.

Full text of the GWSA can be found at:

<http://www.mass.gov/legis/laws/seslaw08/sl080298.htm>



Mandatory Reporting Regulations

Two Step Process

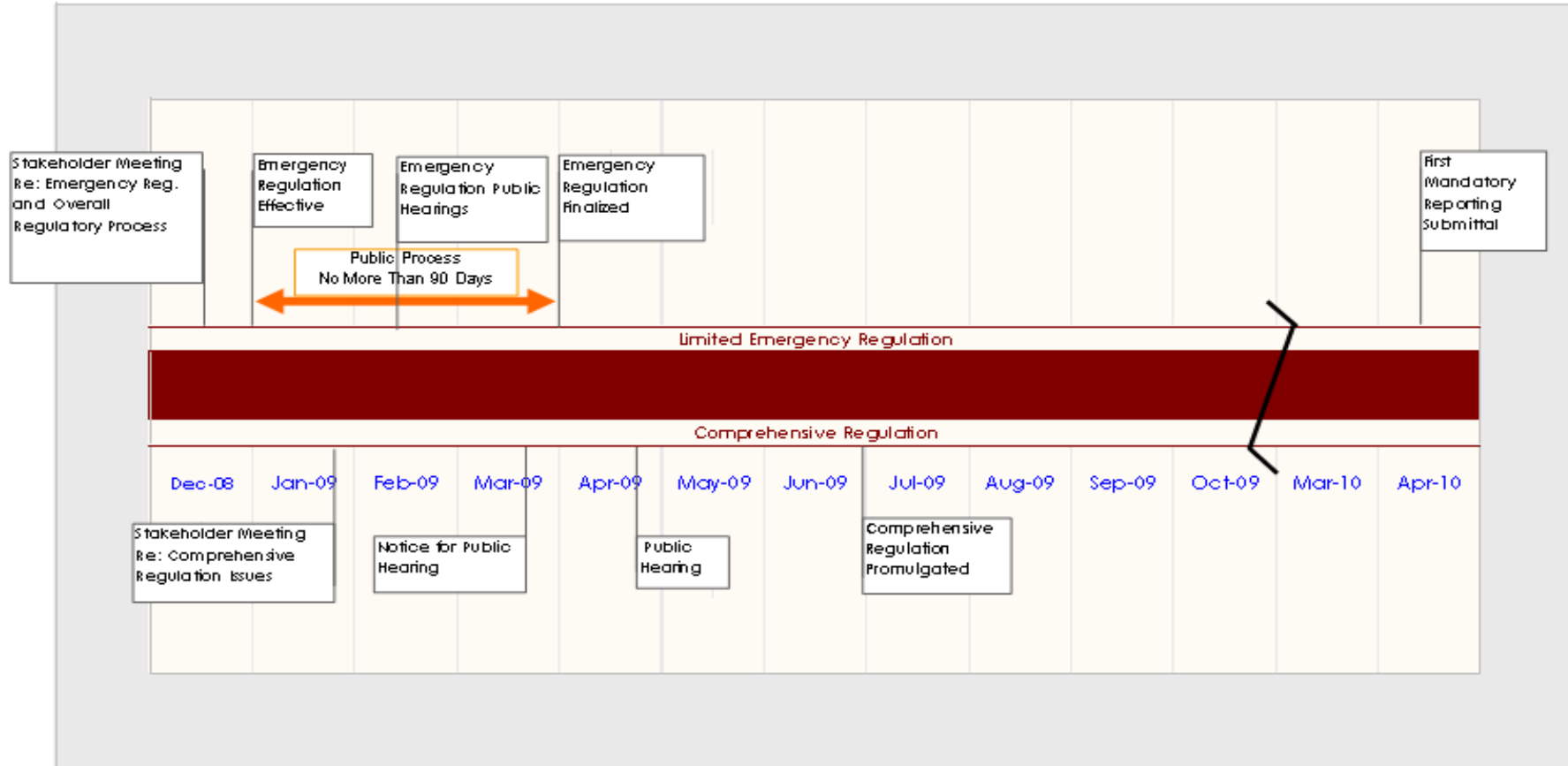
STEP 1: Limited Emergency Regulations by January 1, 2009

- Identify sources, outline the reporting process, provide notice to facilities.
- Meet the statutory deadline of January 1, 2009.

STEP 2: Comprehensive Regulations by June, 2009

- Detailed reporting schedule, requirements, and logistics for reporting.
- More public discussion prior to promulgation of comprehensive regulations.

Draft Promulgation Timeline



Limited Emergency Regulation

(December 2008)

Who Has to Report?

- The GWSA identifies reporters:
 - Title V facilities under the Federal Clean Air Act (implemented under 310 CMR 7.00: Appendix C)
 - Facilities that emit > 5,000 tons/year in carbon dioxide equivalents* from stationary sources
- MassDEP is developing a simplified form to assist facilities in determining who must report.
- * Carbon dioxide equivalents (CO₂e) means that, for gases other than carbon dioxide, the number of tons is adjusted to account for differing global warming potentials.

When Do I Have to Report? Which Gases Do I Have to Report?

- 2009 emissions: Report emissions of carbon dioxide by April 15, 2010.
- 2010 and beyond: Report emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride by April 15 of the following year.

What Do I Have to Report?

- Title V (310 CMR 7.00: Appendix C) sources
 - $> 5,000$ tons CO₂e
 - Report all direct emissions
 - Includes emissions from stacks, processes, vents, *motor vehicles*, and fugitive emissions
 - $\leq 5,000$ tons CO₂e
 - Report direct stack emissions only
 - Includes emissions from stacks, processes, vents, and fugitive emissions
- Other Facilities
 - Applicable if direct stack emissions $> 5,000$ tons CO₂e
 - Report all direct emissions
 - Includes emissions from stacks, processes, vents, *motor vehicles*, and fugitive emissions

What Do I Have to Report?

Summary of proposed mandatory GHG reporting requirements			
Category:	Title V (Appendix C) facilities*		Other facilities
Applicability:	Always applicable		Applicable if direct stack emissions are > 5,000 tons CO ₂ e
Reporting Requirement:	> 5,000 tons CO ₂ e	≤ 5,000 tons CO ₂ e	Report all direct emissions
	Report all direct emissions	Report direct stack emissions only	

Direct emissions means emissions from stacks, processes, vents, *motor vehicles*, and fugitive emissions.

Direct stack emissions does not include *motor vehicles*.

What is Registration?

- Registration is a one-time requirement for Appendix C (Title V) sources and other facilities that emitted more than 5,000 tons of CO₂ in 2008.
- Registration is based on emissions from combusting fossil fuels at stationary sources only.
- Registration is accomplished by submitting a simple form to MassDEP by April 15, 2009.

How Do I Calculate My Emissions?

- Emissions must be calculated based on the protocols and methodologies contained in The Climate Registry's General Reporting Protocol.
 - Detailed technical guidelines for quantifying emissions of greenhouse gases
 - Chapter 12 covers emissions from fossil fuel combustion.
 - Download a copy at:
<http://www.theclimateregistry.org/downloads/GRP.pdf>

5,000 tons of CO₂e Emissions

- Approximately 5,000 tons of CO₂e are emitted in a year when:
 - 83,100,000 cubic feet of natural gas are burned,
 - 442,000 gallons of No. 2 fuel oil are burned, or
 - A 1.0 MW, 30% efficient natural gas-fired electric generator runs at 85% capacity.

Sample Calculation

XYZ Facility

- Boiler #1 (dual fuel)
 - No.2 fuel oil
 - 22.12×10^3 gallons fuel oil x 11.3 tons/ 10^3 gallons (emission factor from GRP) = 249.96 tons CO₂
 - Natural gas
 - 77.50×10^6 cubic feet natural gas x 0.06018 tons/ 10^3 cubic foot (factor from GRP) = 4663.95 tons CO₂
- Boiler #2 (single fuel)
 - No. 4 distillate oil
 - 9.26×10^3 gallons fuel oil x 10.8 tons/ 10^3 gallons (emission factor from GRP) = 100.01 tons CO₂
- **Total XYZ Facility emissions = 5,014 tons CO₂e**

What Should I Be Doing Now?

- Estimate 2008 emissions from burning fossil fuels at stationary sources, and register by April 15, 2009 if necessary.
- Prepare to report future emissions:
 - Become familiar with the General Reporting Protocol.
 - Prepare to collect and retain information and records needed to calculate and document emissions.

Comprehensive Regulation

(by June 2009)

Comprehensive Regulation

- Anticipate promulgation by June 2009.
- Will include:
 - All the elements of the emergency regulation.
 - Detailed reporting schedule
 - Requirements for all reporters
 - Logistics for reporting.
- Allows MassDEP to consider stakeholder input and make revisions to the emergency regulation as necessary.

Comprehensive Regulation Issues

- Issues for comprehensive regulation and NOT the limited emergency regulation.
- Issues to introduce:
 - The Regional GHG Registry
 - Voluntary Reporting
 - Verification
 - Retail Sellers of Electricity
 - Additional GHG Quantification Protocols
 - Early Action Credits

The Regional GHG Registry

Under GWSA, the regulations shall:

“establish a regional greenhouse gas registry and reporting system for greenhouse gas emission sources; provided, however, that in establishing the greenhouse gas registry and reporting system, the department may collaborate with other states or a regional consortium”

The Regional GHG Registry

- The regional registry will provide for public access to reported data.
- The regional registry may be used to facilitate data submission.
- MassDEP participated in the development of the Eastern Climate Registry and, more recently, The Climate Registry.

Voluntary Reporting

Under GWSA, the regulations shall:

*“provide for the **voluntary reporting** of emissions of greenhouse gases to the regional greenhouse gas registry by entities and facilities that are not required to submit information ...of a type and format that the regional greenhouse gas registry can accommodate”*

Voluntary Reporting

- The comprehensive regulation could allow MA Facilities to voluntarily report under MassDEP's mandatory reporting program using the same protocols and process.
 - Voluntary data would be published in the registry with mandatory data.
 - Voluntary reporters would report on a facility basis.

Verification

Under GWSA,

*“The department shall adopt regulations to require the reporting and **verification** of statewide greenhouse gas emissions ...”*

Verification

Three Options:

- **Third Party Verification**

- Reporters would hire an approved third party to verify emissions reports.

- **Self-Certification and MassDEP Audit**

- **Limited Third Party Verification**

- Verification could be required for certain facilities or purposes.

Retail Sellers of Electricity

Under GWSA, the regulations shall:

*“Require reporting of greenhouse gas emissions from generation sources producing all electricity consumed, including transmission and distribution line losses from electricity generated within the commonwealth or imported from outside the commonwealth; provided, however, that this requirement shall apply to all **retail sellers of electricity**, including electric utilities, municipal electric departments and municipal light boards...”*

Retailer Sellers of Electricity

- Must be *implemented* by July 1, 2009
- Shall require reporting of GHG emissions from generation sources producing all electricity consumed.
 - Includes transmission and distribution line losses from electricity generated within MA or imported from outside MA
- Applies to all retail sellers of electricity, including:
 - Electric utilities
 - Municipal electric departments
 - Municipal light boards
- Issue: Imprecision in emissions values, especially when assigning emissions to a particular retail seller.
- Issue: Imports.

Additional Quantification Procedures

- The Climate Registry is developing additional industry-specific protocols that will provide greater clarity and specificity for GHG reporting in sectors with specialized sources.
- If an adequate protocol does not exist for an industry, these facilities may not be required to report until the protocol is developed.

Early Action Credits

Under GWSA,

“The secretary shall monitor the implementation of regulations relative to climate change and shall, every 5 years, publish a report which shall include recommendations regarding such implementation.”

– The report shall include:

- *“whether regulations or other measures undertaken, including distribution of emissions allowances, are equitable and minimize costs and maximize the total benefits to the commonwealth and **encourage early action** to reduce greenhouse gas emissions”*
- *“whether entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this chapter **receive appropriate credit** for early voluntary reductions...”*

Early Action Credits

- Future regulations may have an Early Action Credit (EAC) component.
- Reporting requirements could support baseline and data collection for EACs.
- Third party verification could support eventual creation of EACs.

Comprehensive Regulation Issues

- The Regional GHG Registry
- Voluntary Reporting
- Verification
- Retail Sellers of Electricity
- Additional GHG Quantification Protocols
- Early Action Credits

Next Steps and Future Meeting

- The next stakeholder meeting is scheduled for January 13 or 16, 2009.
- Comprehensive Regulations are anticipated to be promulgated by June 2009.
- For More Information see:
 - MassDEP Mandatory Greenhouse Gas Reporting Website:
<http://www.mass.gov/dep/public/hearings/ghgrmtgs.htm>
 - MassDEP Greenhouse Gases & Climate Change Website:
<http://www.mass.gov/dep/air/climate/index.htm>

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Mandatory Reporting Provisions of GWSA

Section 2 of Chapter 21N of the GWSA

Section 2. (a) The department shall monitor and regulate emissions of greenhouse gases with the goal of reducing those emissions. The department shall adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this chapter.

The regulations shall:

- (1) establish a regional greenhouse gas registry and reporting system for greenhouse gas emission sources; provided, however, that in establishing the greenhouse gas registry and reporting system, the department may collaborate with other states or a regional consortium;*
- (2) annually require the owner or operator of any facility that is required to report air emissions data to the department pursuant to Title V of the federal Clean Air Act and that has stationary emissions sources that emit greenhouse gases to report annually to the regional registry direct stack emissions of greenhouse gases from such sources;*
- (3) require the owner or operator of a facility that has stationary emissions sources that emit greenhouse gases in excess of 5,000 tons of greenhouse gases per year in carbon dioxide equivalents to report annually to the regional registry direct emissions of greenhouse gases from such sources; provided, however, that the department shall develop a simplified estimation form to assist facilities in determining who shall report emissions and shall consider, on an annual basis, requiring the expansion of reporting to the regional greenhouse gas registry;*

Mandatory Reporting Provisions of GWSA (cont.)

The regulations shall:

- (4) provide for the voluntary reporting of emissions of greenhouse gases to the regional greenhouse gas registry by entities and facilities that are not required to submit information pursuant to clauses (2) and (3); provided, however, that the greenhouse gas emissions reported shall be of a type and format that the regional greenhouse gas registry can accommodate;*
- (5) require reporting of greenhouse gas emissions from generation sources producing all electricity consumed, including transmission and distribution line losses from electricity generated within the commonwealth or imported from outside the commonwealth; provided, however, that this requirement shall apply to all retail sellers of electricity, including electric utilities, municipal electric departments and municipal light boards as defined in section 1 of chapter 164A;*
- (6) ensure rigorous and consistent accounting of emissions and provide reporting tools and formats to ensure collection of necessary data; and*
- (7) ensure that greenhouse gas emissions sources maintain comprehensive records of all reported greenhouse gas emissions.*