COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

Methodology for Calculating Avoided Costs of Complying with the Global Warming Solutions Act	)	**D.P.U. 14-__**

JOINT PETITION OF THE MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES AND THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUESTING ADOPTION OF THE AVOIDED COSTS OF COMPLYING WITH THE GLOBAL WARMING SOLUTIONS ACT IN ENERGY EFFICIENCY PROGRAMS USING THE MARGINAL ABATEMENT COST CURVE METHODOLOGY

I. Introduction

Aggressively pursuing energy efficiency has proven to be an effective tool in reducing state level and region wide energy demand; decreasing greenhouse gas ("GHG") emissions from the power sector; accomplishing peak shaving and enhancing grid reliability; as well as keeping energy dollars in Massachusetts and growing clean energy jobs. The Commonwealth's integrated approach to energy efficiency has aligned incentives and created market signals such that electric utilities, state energy agencies, municipalities, and residential and business customers have collaborated on programs that have reduced energy demand and provided significant economic benefits. Yet, as set forth in the testimony attached to this Petition, there is evidence that the avoided costs of compliance with current and future GHG emissions limits are not accurately calculated. More accurate estimates of these avoided compliance costs are needed, if we are to identify and pursue all cost-effective energy efficiency.

Every three years, electric distribution companies, municipal aggregators, and natural gas distribution companies (collectively "Program Administrators") submit to the Department of

Public Utilities ("Department") for its review and approval an Energy Efficiency Investment Plan ("EEIP") that provides for the acquisition of all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supply. M.G.L. c. 25, § 21(b). Within ninety days after submission of the EEIP, the Department issues a decision on the plan. M.G.L. c. 25, § 21(d).

The Department has issued Energy Efficiency Guidelines ("EE Guidelines") that require Program Administrators to account for the benefits of avoiding reasonably foreseeable environmental compliance costs in evaluating the cost-effectiveness of energy efficiency programs.[1] In accordance with 220 CMR 1.04, the Massachusetts Department of Energy Resources ("DOER") and the Massachusetts Department of Environmental Protection ("MassDEP") (DOER and MassDEP hereinafter collectively referred to as the "Agencies") jointly petition the Department to commence an appropriate proceeding to determine whether the existing method of calculating the compliance costs associated with GHG[2] emissions should be replaced by the marginal abatement cost curve methodology. The need for the marginal abatement cost curve methodology is fully explained in the testimony of Tim Woolf and Dr. Elizabeth Stanton and accompanying exhibits.

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[1] The Department issued the current EE Guidelines on October 26, 2009. *See, Investigation by the Department of Public Utilities on its Own Motion into Updating its Energy Efficiency Guidelines Consistent with An Act Relative to Green Communities*, D.P.U. 08-50A (October 26, 2009).

[2] The Department has previously stated that it is investigating "...the appropriate method to calculate the benefits of avoided CO_2 emissions." *See, Vote and Order Opening Investigation*, at 14, D.P.U.-11-120 (November 29, 2011). It is noted that Massachusetts law defines GHG to include "...any chemical or physical substance that is emitted into the air and that the department may reasonably anticipate will cause or contribute to climate change including, but not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride." M.G.L. c. 21N, § 1. While carbon dioxide (CO_2) is the predominant GHG emitted during fuel combustion, methane and nitrous oxide are GHGs that are also emitted. In addition, electric and natural gas distribution systems use and emit non-combustion GHGs such as sulfur hexafluoride and methane. As such, the Agencies maintain that to focus solely on CO_2 underestimates the total GHG emissions that contribute to climate change and that will create environmental compliance costs in the future. This petition refers to GHG or CO_2, as appropriate to the underlying data source or pollutant(s) affected by particular policies and regulations cited.

II. Parties

1. DOER is the Massachusetts agency responsible for establishing and implementing the Commonwealth's energy policies and programs. *See generally*, M.G.L. c. 25A, § 6. Pursuant to M.G.L. c. 25A, § 6, DOER is authorized and directed, among other things, to develop and administer programs relating to energy efficiency and demand-side management, as well as to advise, assist, and cooperate with other state, local, regional, and federal agencies in developing appropriate programs and policies relating to energy planning and regulation in the Commonwealth. M.G.L. c. 25A, § 6(1)-(2). The Commissioner of DOER serves as the chair of the Energy Efficiency Advisory Council. M.G.L. c. 25, § (22)(a). DOER has an office at 100 Cambridge Street, Boston, Massachusetts, 02114.

2. MassDEP is the Massachusetts agency responsible for adopting and enforcing regulations to control the emission of contaminants into the air, including but not limited to GHGs. *See,* M.G.L. c. 21A, § 8 and M.G.L. c. 111, §§142A-142O; *see also* 310 CMR 6.00, 310 CMR 7.00, 310 CMR 8.00 and 310 CMR 60.00. A representative of MassDEP is a member of the Energy Efficiency Advisory Council. M.G.L. c.25, § 22(a). MassDEP has an office at One Winter Street, Boston, Massachusetts, 02108.

3. The Agencies, in conjunction with the Executive Office of Energy and Environmental Affairs and other executive offices and agencies, aid in the Commonwealth's implementation of the Global Warming Solutions Act ("GWSA"), Chapter 298 of the Acts of 2008.[3] The GWSA requires a reduction in 2020 statewide GHG emissions to between 10 and 25 percent below statewide 1990 emissions and a reduction in 2050 statewide GHG emissions to at least 80 percent below statewide 1990 emissions. M.G.L. c. 21N, §§ 3 and 4.

[3] The GWSA includes the Climate Protection and Green Economy Act (codified at M.G.L. c. 21N, §§ 1-9).

4. MassDEP has a major role in the implementation of the GWSA. *See* M.G.L. c. 21A, § 8 and M.G.L. c. 21N, §§ 1-9. Pursuant to M.G.L. c. 21N, §§ 3 and 4, MassDEP determined the 1990 statewide GHG emissions level and the projected 2020 statewide GHG emissions level, if no measures were imposed to lower emissions other than those in effect as of January 1, 2009 (the 2020 business as usual level).

5. The Agencies provided input to the Secretary of the Executive Office of Energy and Environmental Affairs ("Secretary") when he selected 25% below the 1990 level as the legally binding statewide GHG emissions limit for 2020[4] and developed the *Massachusetts Clean Energy and Climate Plan for 2020* ("CECP").[5] The Agencies are required to assist the Secretary in the selection of interim GHG emissions limits for 2030 and 2040 and in the development of future plans to meet these limits. M.G.L. c. 21N, § 3.

6. The Agencies' activities undertaken in furtherance of the GWSA identify energy efficiency as a leading resource to achieve the required GHG emissions reductions.[6] The Agencies' energy efficiency activities also benefit the economy by retaining energy dollars in Massachusetts, growing the clean energy job sector lowering system-wide energy costs, decreasing customer bills, and enhancing grid reliability.[7]

7. DOER's ability to develop and implement consistent governmental policies with respect to the Commonwealth's energy programs will be substantially and specifically affected by this

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[4] *See, EEA 2020 Reduction Target* attached to the Testimony of Dr. Elizabeth Stanton as Exhibit EAS-5.

[5] A copy of the CECP is attached to the Testimony of Dr. Elizabeth Stanton as Exhibit EAS-6.

[6] *See generally*, CECP at 18-28.

[7] *See, the Massachusetts Clean Energy Industry Report 2013*, available at http://images.masscec.com/uploads/attachments/2013/09/MassCEC_2013_IndustryRpt.pdf *and 2014 CELT/RSP ISO-NE, State, Subarea, and Load Zone Energy and Seasonal Peak Forecast 2014* (April 29, 2014) at http://www.iso-ne.com/trans/celt/fsct_detail/2014/pac_29apr2014_iso_state_energy_peak_forecast.pdf.

proceeding. In particular, DOER's ability to develop and administer programs relating to energy efficiency, as well as ascertaining reasonably anticipated environmental compliance costs attributable to GWSA requirements, are directly related to the implementation of the Department's EE Guidelines.

8. Under the GWSA, MassDEP has a responsibility to assist the Secretary in implementing the CECP and in developing 2030 and 2040 interim limits and plans and the 2050 plan for reducing statewide GHG emissions to 80% below the 1990 level. MassDEP's ability to carry out this responsibility is substantially and specifically affected by this proceeding.

III. Procedural Background

9. On February 7, 2000, the Department of Telecommunications and Energy (DTE), acting pursuant to M.G.L. c. 25, § 19 and M.G.L c. 25A, §11G, adopted the first EE Guidelines. *See, Investigation by DTE on its Own Motion to Establish Methods and Procedures to Evaluate Energy Efficiency Programs*, D.P.U. 98-100 (February 7, 2000). In 2009, the Department updated the EE Guidelines in response to the enactment of the Green Communities Act, St. 2008, c. 169. *See, Investigation by Department, on its Own Motion into Updating its EE Guidelines Consistent with the Green Communities Act*, D.P.U. 08-50-B (October 26, 2009). The EE Guidelines incorporate natural gas and electric benefits due to avoided capacity, avoided energy, avoided transmission, and avoided distribution, among other things. The EE Guidelines specifically recognize that "avoided capacity, energy, transmission and distribution cost factors shall include related environmental compliance costs that are reasonably projected to be incurred in the future because of state or federal laws, rules, and or regulatory requirements that are currently in effect, or are projected to take effect in the future." *See*, EE Guidelines 3.4.4.1(a)(v)(electric); *see also,* EE Guidelines 3.4.4.2(a)(iii)(gas).

10. On November 29, 2011, the Department opened an investigation concerning additional updates to its EE Guidelines. *Investigation by the Department of Public Utilities on its own Motion into Updating its Energy Efficiency Guidelines*, D.P.U. 11-120 (November, 29, 2011) ("*Investigation*").

11. In opening this *Investigation*, the Department acknowledged that the avoided environmental compliance costs of reducing some CO_2 emissions are included as a benefit in determining the cost-effectiveness of energy efficiency programs. The Department further noted that Program Administrators then valued these benefits based on the costs associated with purchasing CO_2 allowances under the Regional Greenhouse Gas Initiative through 2016 and the cost of purchasing allowances under a presumed federal cap and trade system beginning in 2018. The Department noted that the CECP calls for the implementation of a portfolio of policies aimed at reducing CO_2 emissions to 25% below the 1990 levels as required by the GWSA. The Department sought to investigate whether the current method of valuing these compliance costs when assessing the cost-effectiveness of energy efficiency measures underestimates these compliance costs, and if so, how the reasonably anticipated costs of complying with the GWSA can be incorporated into the cost-effectiveness analysis for the electric and natural gas energy efficiency programs. *See generally, Vote and Order Opening Investigation*, at 13-18, D.P.U. 11-120 (November 29, 2011).

12. In the course of the *Investigation*, a consensus emerged that a rigorous and robust analysis of the expected cost of complying with the GWSA should be developed. DOER and MassDEP requested that, pending completion of that analysis, the Department adopt an interim proxy value for the avoided environmental compliance costs associated with reducing GHG emissions. On August 10, 2012, the Department issued an order in which it declined to adopt an

interim proxy value and instead continued the investigation into the method used to calculate the reasonably anticipated environmental compliance costs associated with CO_2. *See generally, Order on Program Net Savings and Environmental Compliance Costs*, at 16-18, D.P.U. 11-120 (August 10, 2012).

13. The *Investigation* has remained open, and in October 2013, the Department conducted "...a technical session to discuss the various methods to calculate the costs associated with the emission of CO_2 and the process by which this investigation should proceed." *See, Investigation, Hearing Officer Memorandum* at 1, D, P.U. 11-120 (October 8, 2013).

14. Following the October 2013 technical session, the Department issued further instructions to the technical session participants confirming that the "...process by which to change the method to calculate environmental compliance costs is through an adjudicatory proceeding. In order to initiate the adjudicatory process...a proponent seeking to change the existing method should file a petition with the Department that meets the requirements of M.G.L. c.30A §§ 10, 11, and 14, and 220 CMR §§ 1.00 *et seq.* " *See, Investigation,* Hearing Officer Memorandum at 1, D.P.U, 11-120 (December 19, 2013). In response to the Hearing Officer's December 19th Memorandum, the Agencies petition the Department to commence an appropriate proceeding to determine whether the existing method used to calculate the environmental compliance costs associated with GHG should be changed and replaced by the marginal abatement cost curve methodology.

IV. Statutory Basis for Department Action

15. The Department is charged with the general supervision of all electric and natural gas companies and their operations, including their compliance with the provisions of law, and the