



BOSTON OFFICE

HEALTH CARE WITHOUT HARM-  
41 OAKVIEW TERRACE  
JAMAICA PLAIN, MA. 02130  
WWW.NOHARM.ORG

Date: January 20, 2015

Re: Improving Health Care Energy Efficiency and Massachusetts' 2016-18 Energy Efficiency Plan

To: Energy Efficiency Advisory Council and Program Administrators

From: Boston Green Ribbon Commission (GRC) Health Care Working Group participants<sup>i</sup>, and Health Care Without Harm (HCWH)<sup>ii</sup>

**Introduction:** To frame our recommendations, here is some key context and new information.

1. In December, 2014 the Boston Green Ribbon Commission (GRC) released a report summarizing analysis of the GRC's Health Care Working Group's energy and GHG data. <https://noharm-uscanada.org/articles/press-release/us-canada/boston-hospitals-cut-energy-use-6-despite-continued-facility-growth> The report demonstrates:
  - a. Energy savings of 290 billion Btu, or 4%, 6% compared to business as usual (BAU).
  - b. Electricity dropped 25 million kWh, 6.5% BAU
  - c. Natural gas dropped 15% BAU.
  - d. Absolute GHG dropped 5.7%, or 14,286 MtCO<sub>2</sub>e.
  - e. Financial savings could cover over 1,055 MA medicare enrollees, or 4,600 in-patient days.
  - f. All this is proof the utilities and our sector are collaborating well.
2. Leo LaRosa, Director of Utilities and Infrastructure for Boston Medical Center, speaking for both BMC and the GRC Health Care Working Group states: "At BMC we are constantly working to maximize all available incentive opportunities to improve our Energy costs, environmental impact and resiliency. In the past three years we have reduced our electrical energy consumption by 9,700,000 kWh and are on track to reduce our Carbon Emissions 45% by 2018. BMC and the City of Boston recently received a \$3.7 million grant from the Commonwealth to install 2 Megawatts of CHP to provide black start resiliency to BMC as well as vital City, State and Federal communications equipment.
3. Looking statewide, 65 members, or 75% of the Massachusetts Hospital Association have enrolled in our Healthier Hospitals Initiative's Leaner Energy Challenge. This means they have committed to achieve up to 10% energy reductions. Over 40 of these hospitals have registered for next week's quarterly sharing call, this one featuring National Grid's Jose Veiga, Murtha Cullina's Paul Michaud and others.
  - a. They are also participating in events on financing, CHP, benchmarking, audits, and using our new publication, *Energy Information and Resources for Hospitals in Massachusetts*, <http://healthierhospitals.org/media-center/news-updates/hcwh-and-hhi-released-energy-information-and-resources-hospitals> .
4. Many more such collaborations, and better, can drive additional EE progress in our sector. Over time, we want to work together to get 100% participation by healthcare and all the utilities.

The GRC Health Care Working Group and HCWH advocate the 2016-18 Energy Efficiency Plan include the following **bold text**. Un-bolded text provides explanations and/or includes elements to be discussed and addressed during implementation, building on informal collaboration between the utilities, customers and key stakeholders.

For the health care sector:

1. **Fully implement the recommendations of the (pending) health care energy efficiency best practices study.**

For further information: Paul Lipke, [plipke@hcwh.org](mailto:plipke@hcwh.org), 413-367-2878

- a. Leverage outreach and implementation with one-to-many, and one-to-one strategies, hospital-hospital sharing calls, case studies, etc. using sub-sector partners, such as:
  - i. Massachusetts Hospital Association (MHA)'s partnership with HCWH's Healthier Hospitals Initiative (HHI)
  - ii. Practice Greenhealth, and
  - iii. Health Care Without Harm.
2. Continue to **Increase the attention paid to energy efficiency, especially at mid-sized and smaller hospitals.** All levels of utility company staff need to work innovatively with stakeholders to:
  - a. **Address hospital energy efficiency staffing constraints**, which is a major barrier:
    - i. Increase utility and especially hospital staffing to enable deeper support/implementation. Many in the sector have deep and long-standing resistance to ESCOs, which either needs to be overcome or worked-around, such as through staffing grants. Hospital facility staff energy efficiency work load could also be reduced through pairing customers on similar projects (i.e. mini-aggregation) for the sharing of technical resources, templates for RFP's & contracts, and project implementation.
  - b. **Improve hospital senior management support for energy efficiency:**
    - ii. Ensure pro-formas and proposals sell EE in the language relevant to the varied concerns of health care senior leadership; facility management; procurement, contract law, finance and administration. For those already engaged in EE, the focus should be on selling projects with 10-20% ROIs (5-10 year paybacks).
    - iii. Reinvest at least a portion of savings from energy efficient improvements in future energy efficiency.
    - iv. Align EE sales process and implementation with customer's capital expenditure budget development timing and process, and minimize/eliminate the hockey stick.
    - v. Address the emerging competition in capex budgets for climate resiliency enhancements, on top of the existing competition from clinical needs.
  - c. **Innovate to jumpstart energy efficiency in institutions that both truly lack funds to match incentives, and hesitate to use the typical solutions such as ESCOs.**
3. **Launch a comprehensive, integrated, energy efficient 'Smart Lab' pilot program, with statewide expansion to follow, including health care, higher education and biotech.**
  - a. Labs have the highest EUIs of any large building type, some are over 800 kBtu/sf. As a class, Massachusetts' many labs are more energy intensive than data centers.
  - b. Build rapidly on the highly successful GRC-Higher Education and Health Care "Smart Labs" Symposium of March, 2014.
  - c. Since existing best practice, comprehensive SmartLab models can take 2-5 years to develop and implement, and a pilot is essential, it is possible a substantive statewide program would only be beginning in late 2017. Collectively, we will need to figure out how to quantify and report progress over such a long cycle.
4. **Leverage new and emerging resources to increase CHP:** Build on four new and emerging resources:
  - a. Implement the recommendations of the upcoming National Grid/HCWH strategic roundtable, *Accelerating CHP Development in MA Health Care*, designed to define and tunnel through barriers, especially for 100-500 kW 'plug and play' CHP for smaller institutions.
  - b. Monetize the business continuity and public health savings of CHP's climate resilient, black start, island mode capability
  - c. Leverage the Dept. of Health & Human Services' new toolkit, "Primary Protection: Enhancing Health Care Resiliency for a Changing Climate," released in December at the White House, co-authored by HCWH.
  - d. Leverage best practices: The City of Boston and Boston Medical Center were just awarded a \$3.7 million resilience grant from the Commonwealth to support installation of a new, 2 MW

black start, island operational CHP at BMC, which will also provide backup electric power to the regional emergency communications infrastructure across the street.

For all of C&I:

5. Continued solid funding is fully justified by energy efficiency programs' high return on investment for participants and the citizens of the Commonwealth. That said, the Plan needs to spell out how **under-spent C&I dollars and staffing will ramp up to improve performance, to capture all cost-effective energy efficiency, including proactive efforts to achieve maximum energy efficiency potential as expeditiously as possible.**
6. **For each major C&I subsector**, the plan should include **high level strategy and specific benchmarks to track and eliminate the cumulative C&I performance gap.**
  - a. Strategies and tactics need to remove/overcome barriers to customers fully using the available incentives, whether through improved communications, scoping studies, technical assistance, "bounties" to 3rd party providers, and/or ensuring sales process and materials align with customer's situation, culture and needs. This is especially true for mid-size and smaller entities.
7. **Develop and use the statewide data-base to improve targets, implementation, reporting, analysis, midterm modifications, and ultimately, results.**
8. **Pursue solutions to split incentives**
9. **Set specific targets, and track major reductions or elimination of the hockey stick**
  - a. Make the 'best deals' available all year long. Many facilities simply don't have the needed time and resources to respond to improved offers at year's end.

At a still higher level:

10. To the extent possible, we ask the Plan and the Council **address demand management, load shifting and non-transmission alternatives, in synergy with other state and regional policies.**
  - a. Focus on geographies with the greatest positive impact on peak demand and natural gas constraints.
11. **Include societal health and resilience benefits from energy efficiency in cost benefit analysis and marketing/outreach.**
  - a. Cost benefit inclusion will likely be a DPU and legislative matter, but we urge the Council and PAs to support a feasibility study on how this important factor, and others such as climate resilience, could be included in time for the 2019-2021 plan, if not sooner. Preliminary EPA/DOE based estimates demonstrate direct health care cost reductions are over \$0.0033/kWh, \$0.08/MMBtu, and ten times those in societal value.
    - i. New York City hospitals "incurred an estimated \$1 billion in costs associated with emergency response measures taken during and immediately after Superstorm Sandy, including the costs of staff overtime, patient evacuations, and emergency repairs of equipment. To return to normal operations...it is projected that damaged hospitals will spend at least another \$1 billion on repairs and mitigation. In addition, permanent revenue loss for hospitals citywide is estimated to have been nearly \$70 million per week in the immediate aftermath of the storm. Hospitals [as well as nursing homes and other health facilities] that were closed due to serious damage experienced revenue losses over many months." *A Stronger, More Resilient New York*, [www.nyc.gov/html/sirr/html/report/report.shtml](http://www.nyc.gov/html/sirr/html/report/report.shtml)
  - b. **Outreach:** Last week, a peer-reviewed UCLA study of some energy efficiency programs found that QUOTE, "environment and health-based information strategies, which communicate...externalities such as pounds of pollutants, childhood asthma, and cancer, significantly outperform monetary savings information to drive behavioral change...[They] motivated 8% energy savings versus control and were particularly effective on families with

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children, who achieved up to 19% energy savings."  
<http://www.pnas.org/content/early/2015/01/07/1401880112>

#END of NARRATIVE#

**The Boston Green Ribbon Commission** is a group of business, institutional and civic leaders in Boston supporting the implementation of the city's Climate Action Plan. The plan includes strong recommendations on how Bostonians can increase efficiency, reduce emissions and prepare for extreme weather and higher sea levels. Many cities have produced similar plans. But few have also enlisted the support and leadership of the local business community as effectively as Boston, to help reduce greenhouse gas emissions 25 percent by 2020 and 80 percent by 2050. <http://www.greenribboncommission.org/health-care>

**Health Care Without Harm** <https://noharm-uscanada.org/> works to transform the health sector worldwide, without compromising patient safety or care, so that it becomes ecologically sustainable and a leading advocate for environmental health and justice. [HCWH-Boston](#) leads some of its most ambitious efforts, covering toxic reductions, green building, energy efficiency, and climate change. As a result, Boston's health care sector is playing a leadership role in regional efforts to address climate change.

The Boston Green Ribbon Commission's Health Care Working Group is coordinated by Health Care Without Harm-Boston, and includes:

Beth Israel Deaconess Medical Center	Heywood Hospital
Boston Medical Center	Massachusetts Eye and Ear Infirmary
Brigham & Women's Hospital	Massachusetts General Hospital
Cambridge Health Alliance	MetroWest Medical Center
Carney Hospital	Partner's Health Care, and its 11 hospitals
Children's Hospital Boston	St Elizabeth's Medical Center
Dana Farber Cancer Institute	Steward Health Care
Harvard Medical Collaborative	Tufts Medical Center

<sup>ii</sup> Health care is, and will be on the front lines of the energy/climate issue due to our energy intensity, and because extreme weather events, air quality and other factors impact facility operations and clinical services at the same time we are reinventing ourselves to deliver care more effectively and efficiently. Ever more aggressive pursuit of energy savings is essential to an effective response. To reach a 25% reduction in GHG by 2020, a daunting challenge, we must push beyond current practices and collaborate with regulators and utilities to identify novel, persistent strategies we can share widely. We ask the Council to adopt our suggestions to enable "next generation" savings and help the Commonwealth reach its goals.

Health care's leverage is enormous and unique: immensely complex buildings and clinical equipment with 24/7 life and death operations, dedicated to "doing no harm." We are the Commonwealth and Boston's largest employers (454,000 / 100,000 respectively), and Boston's largest real estate holder with over 23 million owned square feet. Not counting significant leased space, we consume about 700 million kWh, 8.6 million therms of natural gas, 82 million ton/hours of chilled water, and 2.7 MBtu of steam annually. Energy is our biggest cost after labor and pharmaceuticals. We have many reasons to be serious about energy/GHG reductions.

Energy efficiency and cost-effective clean energy are essential to the health and economic well-being of the Commonwealth, of its citizens, and to health care cost containment. Health is energy efficiency's most important non-energy, strategic, and economic benefit.

As institutions at such scales, we support the GCA, and think the GCA/EEAC plans need to maintain an achievable, yet aggressive savings rate, reduce barriers and increase access, improve data collection to drive continuous program improvement, and position energy efficiency as a key strategy to improve the health of citizens of the Commonwealth, reduce loss of jobs and strengthen our economy.

From the public health and health care sector perspectives, energy efficiency and clean energy supply are essential components of a healthy and resilient society. As health institutions, we strive to mitigate the adverse health impacts of conventional energy use, to heal patients from unavoidable impacts, and to properly value in our business decisions the health benefits of energy efficiency.

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