Health Care Renewable Energy and Green Jobs Initiative: Health Care Leadership National Action Plan

A broad coalition of health-care industry leaders have joined together to work with the Obama Administration and Congress to solve a number of the most pressing challenges facing our nation and the health care community. This coalition is proposing that a Health Care Renewable Energy and Green Jobs Initiative be created and to include $2 Billion in the emerging "Economic Recovery Bill".

The funded initiative would create new clean energy jobs through investment in clean energy technologies to be implemented in health care facilities nationwide, the 2nd most energy intensive industry per square foot of building in the nation. Through this initiative, our coalition can help the Obama Administration and Congress stimulate the economy by building renewable energy generating capacity and energy efficiency projects that would create clean energy jobs, reduce our dependence on fossil fuels, reduce greenhouse gas emissions and avoid the illness and disease caused by the burning of fossil fuels.

The nation is at a transformational moment. As the nation faces unprecedented economic, energy, national security, climate, and health care challenges, we are presented with real opportunities for change. The health care industry can play a significant role in successfully addressing these challenges in direct alignment with the new administration's stated goals. Our broad coalition is committed to the very important work of reforming the health care system and that reform must include energy and ecological advancements. The health care community stands ready in support of the Obama Administration and Congress by advancing substantive clean energy solutions.

This initiative will pave the way to transform how the health care community meets its energy demands and would serve as a model for other industries willing to contribute to programs in support of our national interest.

The outcomes of this initiative will include the following:

1. Green Energy Jobs: Approximately 28,600 new "direct" clean energy jobs plus an additional 28,600 indirect jobs[i]
2. New Clean Energy Generating Capacity: Over 695 MW of new clean electric generating capacity[ii]
3. Carbon Reduction: 890,000 Tons of "Annual" CO_2 emission reduction[iii]
4. Reduction of Imported Oil: Eliminate the need for 4,000 barrels of oil per day[iv], equivalent
5. Medical Cost Avoidance: Avoiding just over $10,000,000 in direct "annual" medical cost[v] and over $87 million in annual secondary costs due to the prevention of the avoidable illness and disease from fossil fuel emissions.

It is important to note that these outcomes are meant to be broadly illustrative of investment possibilities in job creation, installed clean energy capacity, CO_2 emission reductions, oil imports avoided and the direct medical costs avoided due to the prevented health impacts of fossil fuel emissions.

Background

Clean energy systems and energy efficiency investments contribute directly to domestic job growth energy independence, national security, and mitigation of climate change. When targeted in the health care sector, the transition to renewable energy will enable the sector to reduce and contain the cost of energy. Hospitals are seeing double-digit increases in energy costs, while energy prices are exceedingly volatile. The inflationary pressure is challenging the health care industry as it adapts to this new economic reality. According to the EPA, up to 30 percent[vi] of that energy can be saved without sacrificing the quality of care through energy technologies. Every dollar a nonprofit hospital saves on energy is equivalent to generating $20 in new revenues[vii].

Data from the U.S. Energy Information Administration illustrates that buildings are responsible for almost half of the energy consumed and 48% of all Green House Gas emissions[viii]. In-patient health-care facilities are the 2nd most energy intensive facilities[ix]. Clearly, the health care industry's intensive use of conventional energy contributes disproportionately to all of the challenges mentioned above that are facing our nation.

Moreover, according to U.S. EPA-based estimates, health care's 73 trillion kWh "conventional" electricity use adds over $600 million per year in increased health care costs related to increased disease burden in the general public (e.g. treated asthma cases, respiratory illness, increased hospital room visits), and our 341 trillion BTU's for heating and cooling contributes hundreds of millions of dollars more on health energy related medical care.

Recently, the health care sector has been undergoing a dramatic transformation in its core practices as the science is confirming the link between type and amount of energy used, climate change and a variety of avoidable illnesses and diseases caused by fossil fuel emissions. Health care leaders understand that their Hippocratic Oath to "do no harm" translates into leadership to address their ecological footprint as well as become leaders in the broader society to protect the environment.

The Challenge

At this critical moment in time when health care is positioned and ready to contribute to these pressing challenges by greening their energy and buildings, the industry is faced with major financial challenges preventing the investment required to implement clean energy projects.

According to the American Hospital Association (AHA)[x], the ripple effects of the financial market crisis, the rise in unemployment and the loss of job-based health-care coverage has impacted hospitals' ability to continue to serve their communities. This pressure, coupled with other payment pressures, is leading to a decline in hospitals' financial health at a time when demand for health care services is growing. The AHA reports that:

1. The credit crunch is increasing the costs of borrowing needed funds, making it more difficult for hospitals to find the money for facility and technology improvements.
2. Hospitals are reconsidering or postponing investments in facilities or equipment in communities that rely on them for care.
3. An increase in the proportion of patients unable to pay for care and uncompensated care increased 8 percent from July to September versus the same period last year.

Further, according to the AHA, a November 2008 report by the rating agency Moody's stated[xi], "The current credit crisis has limited access to the capital markets for hospitals in recent months, especially for long-term debt issuance. Access to capital is critical for hospitals and their communities given the increasingly capital-intensive and high-tech nature of modern health-care. Ongoing capital investment is needed to assure quality of care and to remain competitive."

The main barrier preventing a more robust move toward the use of clean energy technologies in the health care sector is the capital costs of such projects. So, while the industry is willing and able to help build a thriving clean energy industry, the capital to do so is increasingly unavailable.

Part of the Solution:

1. **Support the Health Care Renewable Energy and Green Jobs Initiative and ensure that $1 Billion in funding is included in the emerging Economic Recovery Bill, and**
2. **Direct all federal agencies, and partner with states, to:**
    a. **balance full life cycle costs and public health/climate change impacts of all policies, regulation, and budgets, and**
    b. **to continually raise the bar on governments' own energy efficiency, clean energy, transportation and supply procurement, with special attention to initiatives impacting health care as a key leverage point.**

Funding the Health Care Renewable Energy and Green Jobs Initiative will provide the financial mechanisms needed for the health care industry to implement clean energy projects in health care facilities. This initiative will allow the health care industry to play a substantive role in partially enabling the Obama Administration to achieve its stated economic, energy, national security, and climate and health care objectives.

Health Care Renewable Energy and Green Jobs Initiative

The Economic Recovery Bill should include $2 Billion to fund clean "technology neutral" energy projects in health care facilities including but not necessarily limited to the following technologies: energy efficiency; new on-site distributed renewable electric generation such as photovoltaic and wind and new on-site combined heat and power[xii], also known as cogeneration projects.

The initiative would establish management infrastructure to oversee and manage the distribution of the funds and associated programs. The funds would be targeted toward Public and Private Non Profit health-care facilities for installation of Renewable Energy and Energy Efficiency projects. Projects will be selected such the majority of funds would be invested by the end of 2009.

This will include identifying projects already identified and engineered where the only barrier is funding. Additionally, we will use a rapid deployment strategy for the Renewable Energy projects. Our approach will utilize a standard on-site renewable energy generation system, pre-engineered, prefabricated and shipped directly to the hospital site. Using this approach, we eliminate the time consuming custom engineering, design and construction that are associated with individual on-site generation projects and this will result in the rapid deployment of renewable generating capacity and jobs creation.

The funds will be distributed using any one of the following methods:

1. Rebate Program
    a. The Fund would provide rebates to enable health care facilities to purchase and install Renewable Energy and/or Energy Efficiency equipment and systems. Such rebates would be structured so as to buy down projects to an economically viable payback period.
2. Grant Program
    a. In certain markets where critical market barriers to implementation exists, grants would be provided to fund 100% of the cost of Renewable Energy and/or Energy Efficiency projects costs.
3. A "Shared Saving" Finance Program
    a. A participating facility would implement a Renewable Energy and/or an Energy Efficiency projects avoiding the capital cost by making a commitment to share in the financial savings created by the measures installed. Each participating facility would enter into a Shared Savings Agreement (SSA) with the Initiative. The initiative would supply 100% of the capital cost to design and build the project. The host site and the initiative would share in the cost savings against a pre-established energy cost baseline as a function of the local market. As local market conditions allow, the fund administrator would receive a reasonable return on each project to build up reserves and achieve a self perpetuating source of funds for the continuous development of additional projects.
4. Establishment of an Insurance Fund to guarantee energy performance contracts
    a. The Initiative will establish and maintain the health care industry's confidence in clean energy projects contracted through Power Purchase Agreements (PPAs) or SSAs by insuring the energy performance of the projects. The initiative will develop and implement policies to identify, quantify and mitigate the project performance risks, providing health care facilities the ability to implement prudent, cost effective, exemplary projects with a high level of confidence in the project's outcomes.
5. Climate and Energy Literacy Program
    a. A public education campaign to educate health care practitioners and the community on the relationship between energy, climate and human health leading to a deeper understanding of how energy practices and energy choices influence our climate and the health of our communities.
    b. Develop a cadre of respected health care leaders to educate civic leaders and other 'movers and shakers' in their communities, and
    c. Create a broad education campaign among --and provide inducements to-- non-profit hospitals to expand their community benefit programs to include community health, disease prevention, and climate protection initiatives.

Just five major hospital systems representing over 55 million square feet of buildings in Texas, California, Hawaii, Massachusetts, Wisconsin and New York, have $468 Million worth of shovel-ready energy efficiency and clean energy projects (over 60 megawatts), with another $265 Million ready by later this year (another 20 megawatts). Nationally, we estimate there could be $25.4 Billion in pending health care energy efficiency and clean energy projects.[xiii] The new administration has outlined a clear set of objectives to address the economic, energy, national security, and climate and health care challenges. The objectives of the Obama Administration are extremely well aligned with the outcomes of this Initiative.

Issue	Obama Administration Goal	Funded Initiative Outcomes
Economy	Create jobs and stimulate the economy by: 1. Boosting the Renewable Energy Sector through Investing In A Clean Energy Economy, 2. Create 5 Million New Green Jobs	Create jobs and stimulate the economy by 1. $2 Billion boost for health-care to build out renewable, clean energy projects. 2. Create 28,600 new green energy jobs
Energy Independence and National Security	Achieve energy independence and enhance our national security by saving more oil than we currently import from the Middle East and Venezuela combined within 10 years - ensure 10% of our electricity comes from renewable sources by 2012, and 25% by 2025	1. Install 695 MW of domestic renewable generating capacity 2. Eliminate the need for 4,000 barrels of oil per day
Climate	Mitigate Climate Change; Make USA a leader through programs to reduce GHG emersions by investing in clean energy industries	Investing $2 Billion in clean energy in health-care facilities will result in result in 890,000 Tons of "Annual" CO_2 emission reduction
Health-care	Address health-care by promoting prevention to strengthen public health	See Table 1 below for avoided illness and disease. Output from EIC end note [v]

Table 1

Medical incidents and costs avoided by displacing 1.25 million kWh of fossil fuel generated electric power

Incidents	Avoided Per Year	* Societal Value	** Direct Medical Costs
Premature Death	11.56	$78,185,710	$3,523,917
Chronic Bronchitis	7.36	$3,495,072	$905,455
Hospital Visit Incidents	10.48	$139,802	$111,848
Asthma Attacks	237.28	$14,438	$13,803
Respiratory Symptoms	11,277.99	$417,224	$417,224
Work Loss Days	2,088.3	$386,149	$359,592
Mercury Related	N/A	$4,956,024	$4,956,024
Totals	**N/A**	**$87,594,420**	**$10,287,863**

*Based on EPA's analysis of society's 'willingness to pay' to avoid each incident of each particular health impact, including the Direct Medical & Other Costs. This is the primary value which EPA uses in its own cost-benefit analysis.

**The cost per incident is the direct cost of that incident (for example, for medical expenses, lost wages and the like), and does not included any additional value for the societal impact. Costs are in 2008 dollars, adjusted from the original sources which provided cost estimates in 1999 dollars, using price indices from the Bureau of Labor Statistics

Sampling of our coalition of health care leaders:

Global Health and Safety Initiative, Kaiser Permanente, Ascension Health Care, Partners Health Care, Catholic Healthcare West, Advocate Health, St. Josephs of Orange, Hospital Sisters Health System, University of Chicago Medical Center, Premier Health Care Alliance, the Catholic Health Association, American Medical Association, American Nurses Association, American Hospital Association, Department of Energy, American Institute of Architects, Health Care Without Harm, Practice Greenhealth, Center for Health Design, U.S. Green Building Council, World Health Organization, and other hospital systems.

End Notes

[i] Associated General Contractors of America released estimates of the impact of construction investment on jobs, gross domestic product (GDP) and personal earnings for the U.S. (www.agc.org/stimulus). The estimates show that each $1 Billion of infrastructure spending supports $3.4 Billion of GDP, $1.1 Billion of personal earnings and 28,500 jobs. Approximately 9,700 are direct construction jobs; 4,600 are indirect jobs in supplier industries; and 14,300 (50%) are induced jobs resulting from purchases out of the additional income of workers and owners in the directly and indirectly supported industries.

[ii] Assuming an equal 1/3rd of the fund is invested in PV, Wind and CHP and applying average installed costs of $8K/kW, $4K/kW and $1.5K/kW respectively to arrive at 695 MW of installed clean energy generating capacity.

[iii] Using the HealthCare Without Harm/Practice Greenhealth "Energy Impact Calculator" to estimate the CO_2 reduction by displacing 1.25 Billion kWh annual "grid" electricity. The 1.25 Billion kWh value was estimated based on 100% PV installations and national average insolation (kW.kr/ (m^2.day)) with fixed PV arrays.

[iv] Estimated assuming the following; an oil to electricity conversion efficiency of 50%, combined cycle plant (no co-gen), a satisfactory oil quality, relatively normal sulfur content, an average thermal content of 140,000 BTU/gal, 42 gal/bbl, 100% application of PV technology for illustrative purposes, and finally all the displaced grid power was originally generated with oil to arrive at the 4,000 bbl/day reduction.

[v] Using the HealthCare Without Harm/Practice Greenhealth "Energy Impact Calculator" to estimate the direct medical costs saved by displacing 1.25 Billion kWh annual "grid" electricity and avoiding the illness and disease associated with fossil fuel emissions. The 1.25 Billion kWh value was estimated based on 100% PV installations and national average insolation (kW.kr/(m^2.day)) with fixed PV arrays

[vi] U.S. Environmental Protection Agency, ENERGY STAR program. "Useful Facts and Figures." No date referenced. 1 June 2007 <http://www.energystar.gov/index.cfm?c=energy_awareness.bus_energy_use>.

[vii] <ref> Energy Star for Healthcare - Healthcare organizations spend over $8.3 billion* on energy each year to meet patient needs. Every dollar a nonprofit healthcare organization saves on energy is equivalent to generating new revenues of $20 for hospitals<ref> * Source: EIA, CBECS 2003, Adjusted for inflation to 2007 dollar

[viii] Inventory of U.S. Greenhouse Gas and Sinks: 1990-2005. "USEPA #430-R-07-002, Table 2-16: U.S. Greenhouse Gas Emissions by Economic Sector and Gas with Electricity-Related Emissions." April 2007. 14 June 2007 <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>.

[ix] DOE – EIA 2003 Data <http://www.eia.doe.gov/emeu/efficiency/cbecstrends/cbi_html/cbecs_trends_6b.html>

[x] AHA report "The Road to Economic Recovery: A Proposal to Support Health Care in America" dated December 2008

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[xii] Combined heat and power (CHP), also known as cogeneration, is an efficient, clean, and reliable approach to generating power and thermal energy from a single fuel source. By installing a CHP system designed to meet the thermal and electrical base loads of a facility, CHP can greatly increase the facility's operational efficiency and decrease energy costs. At the same time, CHP reduces the emission of greenhouse gases, which contribute to global climate change.

[xiii] Hospital Energy Alliance/Booz Allen Hamilton "Analysis of Planned Hospital Energy Efficiency Projects," December 2008