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Energy

Guidance Document for Members

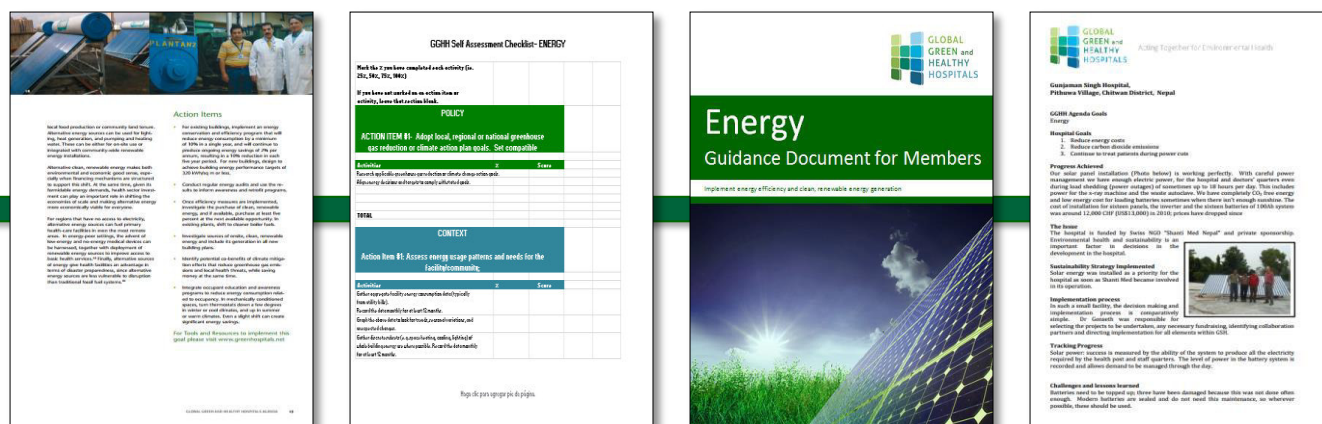
Implement energy efficiency and clean, renewable energy generation



The GGHH Guidance Document Series

Global Green and Healthy Hospitals is producing a series of Guidance Documents—one for each of the ten GGHH goal areas. These documents are intended to assist GGHH member hospitals and health systems around the world reduce their environmental footprint and promote environmental health.

They are also designed as integral parts in a system that logically progresses from the Action Items in the GGHH Agenda; to Self-Assessment Checklists that members can use as a benchmarking tools; to the Guidance Documents themselves and associated case studies and resources; to a series of measurement tools (still in development) to help members measure their progress over time.



These documents, which are available to members as an integrated online system via GGHH Connect, are also downloadable in PDF format. They are designed as participatory, living documents. That is to say, GGHH wants membership feedback and suggestions for actions, examples, case studies, links and the like so that these Guidances can evolve based on the real experience and input of our members. We aim to update them regularly.

About this Energy Guidance Document

Most of the environmental and public health harm produced by energy consumption is from the combustion of fossil fuels, such as oil, coal and gas. The emissions generated from fossil fuel combustion are major contributors to global climate change and local health problems. Greater energy efficiency and transitioning to lean, renewable energy sources, such as solar and wind, can both significantly reduce greenhouse gas emissions and protect public health from the myriad impacts of climate change. These changes bring with them the health and economic co-benefits of reductions in hospital admissions and treatments for chronic illnesses such as asthma, lung and heart disease caused by the pollution created from the extraction, refining and combustion of coal, oil and gas.

This Energy Guidance Document helps health care leaders make the changes needed to reduce their energy consumption and energy related fossil fuel emissions by identifying specific actions that health care facilities can take. These actions are supported with links to case studies, and lists of specific Action Items that can be used to guide the development of solutions and measure progress towards reducing energy consumption and using cleaner sources of energy.

This document was produced in collaboration with Mazzetti, Foursight - an employee-owned benefit corporation providing Finance, Planning, Project Delivery, Research and Policy in a number of fields, including designing human-centered healthcare infrastructure. GGHH acknowledges the significant technical contribution made by Mazzetti, Foursight in developing this document, as well as the GGHH Water and Waste documents. For more information see: <http://www.mazzetti.com>

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OVERVIEW

Most of the environmental and public health harm produced by energy consumption is from the combustion of fossil fuels, such as oil, coal and gas. The emissions generated from fossil fuel combustion are major contributors to global climate change and local health problems. In 2007, fossil fuels made up more than 86% of global primary energy consumption, releasing nearly 30 billion metric tons of carbon pollution into the atmosphere.

Greater energy efficiency and transitioning to lean, renewable energy sources, such as solar and wind, can both significantly reduce greenhouse gas emissions and protect public health from the myriad impacts of climate change, including increased heat-related illnesses, the expansion of vector borne diseases, increased droughts and water scarcity in some regions and storms and flooding in others. Moving away from fossil fuels also brings with it the health and economic co-benefit of reductions in hospital admissions and treatments for chronic illnesses such as asthma, lung and heart disease caused by the pollution created from the extraction, refining and combustion of coal, oil and gas.

The health sector in the industrialized world and in a growing number of developing nations consumes significant amounts of fossil fuel energy, although there are no adequate figures for most countries. There is a need for systematic measuring and benchmarking of health sector energy consumption and associated greenhouse gas (GHG) emissions around the world.

Yet some anecdotal evidence does exist. Hospitals are the second most intensive energy-using buildings in the U.S., where the health care sector spends about \$6.5 billion on energy each year, and that number is increasing.

As the health sector expands in many developing countries, its energy consumption grows as well. In Brazil, for instance, hospitals account for 10.6% of the country's total commercial energy consumption. At the same time, electricity access and hospital electricity consumption in most hospitals in regions such as South Asia and sub-Saharan Africa reflect far

lower energy use rates, while hundreds of thousands of hospitals and health clinics across the world suffer from unreliable electric supplies or no electricity access at all.

Standard operating procedure for most large western-style hospitals requires significant energy use -- for heating water, temperature and humidity controls for indoor air, lighting, ventilation and numerous clinical processes -- with associated significant financial cost and greenhouse gas emissions. Yet gains in energy efficiency can be made without sacrificing the quality of care. For instance, there is a huge variation in healthcare energy use in industrialized nations. The most efficient hospitals in northern Europe consume roughly 35% of the energy that North American hospitals average (320 kWh/sq m compared to 820 kWh/sq m), while delivering comparable healthcare services. A study underway by the University of Washington Built Environment Lab suggest that North American hospitals can achieve 60% reductions in energy consumption through adoption of more efficient system strategies. Hospitals in countries ranging from Mexico and Brazil, to India, Australia and Poland have all demonstrated that they can take basic measures to save money, strengthen facility resiliency and increase energy efficiency by 20 to 30 percent.

Health-care facilities can also significantly cut greenhouse gas emissions and energy costs over time by using alternative forms of clean and renewable energy -- such as solar and wind energy, and biofuels that do not undermine local food production or community land tenure.

Alternative energy sources can be used for lighting, heat generation, and pumping and heating water. These can be either for on-site use or integrated with community-wide renewable energy installations.

Alternative clean, renewable energy makes both environmental and economic good sense, especially when financing mechanisms are structured to support this shift. At the same time, given its formidable energy demands, health sector investment can play an important role in shifting the economies of scale and making alternative energy more economically viable for everyone.

For regions that have no access to electricity, alternative energy sources can fuel primary health-care facilities in even the most remote areas. In energy-poor settings, the advent of low-energy and no-energy medical devices can be harnessed, together with deployment of renewable energy sources to improve access to basic health services. Finally, alternative sources of energy give health facilities an advantage in terms of disaster preparedness, since alternative energy sources are less vulnerable to disruption than traditional fossil fuel systems



About Health Care Without Harm

Health Care Without Harm is an international coalition of more than 500 members in 53 countries that works to transform the health care sector so that it is no longer a source of harm to human health and the environment.

We collaborate with doctors, nurses, hospitals, healthcare systems, professional associations, NGOs, governments and international organizations to promote the development and implementation of safe and environmentally healthy practices, processes and products in the health care sector.

HCWH has regional offices in the United States, Latin America, Europe and South East Asia as well as strategic partners in South Asia and Africa.



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