

HCA Sustainability Plan

Overall Policy

HCA is a responsible and concerned citizen of all communities where it operates. Therefore, the minimum standard for HCA's environmental stewardship is meeting or exceeding all environmental legal and regulatory standards. In addition, HCA will protect and preserve the environment through, at a minimum, the following practices:

- HCA will encourage the recycling of materials where recycling is commercially practical and the minimization, consistent with the law, of waste streams which require additional processing.
- HCA facilities will consider the effect on the indoor environment before introducing a new product into the facility.
- HCA will encourage the continued reduction of energy usage throughout its facilities.
- HCA will evaluate, and where appropriate, incorporate environmentally-preferable alternatives when designing new construction and major renovations.

HCA is also a member of Practice Greenhealth (PGH), an organization as described below. As a PGH member, HCA seeks to:

- Achieve virtual elimination of mercury in its facilities.
- Reduce the quantity and toxicity of health care waste – from manufacturing, purchase and use of products and materials, to improved end-of-life management.
- Minimize the use and exposure to hazardous chemicals, including persistent, bio-accumulative and toxic (PBT) substances.
- Reduce health care's environmental footprint through resource conservation and other measurable environmental improvements.
- Integrate sustainable design and building techniques with environmentally-sound operational practices to create true healing environments.

Organizational Structure

Sustainability Steering Committee – The Sustainability Steering Committee provides the overall guidance for HCA's Sustainability Program. The Committee is chaired by the Senior Vice President and Chief Ethics and Compliance Officer. It includes representatives from Operations, Quality, Finance, FacilitiGroup (Facilities Management and Engineering), HealthTrust - our Group Purchasing Organization, Design and Construction, Public Relations, Human Resources, the HCA Foundation, and Risk and Insurance. The Committee meets on a quarterly basis.

Sustainability Coordinators – Sustainability Coordinators have been appointed at all hospitals. They are responsible for the implementation of the Program at their hospital. A job description has been published and distributed to all hospitals. All Sustainability Coordinators have access to the Practice Greenhealth site.

Task Forces – Four task forces have been established to work on environmental issues with company-wide application. They are Energy and Water chaired by Brian Weldy, VP, FacilitiGroup Infrastructure Solutions; Construction and Major Renovation chaired by Bryan Seely, AVP, Design and Construction; Environmentally Preferable Purchasing chaired by Missy Eslinger, AVP, Value Analysis, Supply Expense Management, HCA Corporate Supply Chain; and Waste Stream chaired by Anna Ward, Director, Sustainability. These task forces identify and research ideas within their areas of responsibility.

Sponsorships and Memberships

Practice Greenhealth – HCA and all HCA facilities are members of Practice Greenhealth (PGH). PGH is the nation's leading membership and networking organization for healthcare institutions that are committed to implementing sustainable, eco-friendly practices. PGH provides webinars, checklists and other tools at no additional cost to its members.

Healthier Hospitals Initiative – HCA is a founder of the Healthier Hospitals Initiative (HHI). The initiative transitioned into Healthier Hospitals (HH), a free program of PGH, in 2015. HH's goals are the same as those under HHI. HH's goal is to use a coordinated approach to achieve sustainability throughout the health care sector, which will prevent environment-related illness, create extraordinary environmental benefits, and save billions of dollars in health care expenses. The basic tenets of the HH agenda are to improve environmental health and patient safety, reduce use of natural resources and generation of waste, and institutionalize sustainability and safety. HCA receives access to various sustainability tools from HH.

Greening the Operating Room – HCA is a founding sponsor of the Greening the OR initiative. Greening the OR seeks to identify key interventions that can reduce waste, energy, worker exposure to hazardous chemicals and save money. This initiative is an attempt to collect data on these interventions and share them as a means to encourage widespread adoption across the sector. HCA is the first health system to recommend that all of its hospitals commit to Greening the OR.

Climate Corps Fellow – For the last eight years, in conjunction with the Environmental Defense Fund, HCA sponsored a Climate Corps fellow to work on energy-related matters. These Masters' Degree candidates work on projects which are designed to both save money and reduce resource usage. Lighting options, an energy performance improvement standard, and energy usage have been project focuses. It is anticipated that another Climate Corps fellow will work with HCA in the summer 2018.

Communications and Leadership

Intranet Websites – There are two intranet websites related to the Sustainability Program. ECHO, Environmentally Conscious Healthcare Operations, contains an overview of sustainability activities and results for the company. It also contains links to external resources. PharmWaste contains tools and education on implementing an appropriate pharmaceutical waste disposal program at hospitals and other settings including, surgery centers, physician practices and imaging centers.

Other Communications – Emails are periodically sent to Sustainability Coordinators regarding certain programs or events. WebEx presentations took place in 2017 and 2018. An additional method of communication available to facilities is HCAFi, a resource for webinars on facility infrastructure, energy management and facility implementation of HCA's Environmental Waste Management Plan.

Leadership – HCA personnel frequently present at sustainability conferences. There was one HCA presenter at the 2017 CleanMed conference; one HCA presenter on sustainability at the 2017 HealthTrust University conference; and one HCA presenter at a 2017 sustainability summit. HCA frequently provides documents for posting and sharing on the Practice Greenhealth website and as part of Healthier Hospitals. In 2018, there was an HCA presenter on a Practice Greenhealth Webinar. HCA, through its Group Purchasing Organization (GPO), HealthTrust, was a leader in establishing uniform environmental attribute questions for contracts with healthcare entities. These standardized questions were published and disseminated industry wide in conjunction with other health care entities and PGH. HCA serves on HealthTrust's Environmental Sustainability Network (ESN), which works at a national level with industry leaders and educates vendors about expectations related to environmental choices. In 2017, there was an HCA presenter on two HealthTrust ESN Webinars. HCA actively participates with HealthTrust in addressing the availability of local or sustainable foods through HCA's participation in HealthTrust's ESN. In addition, seven HCA hospitals received a total of nine Practice Greenhealth 2017 Environmental Excellence Awards.

Data Collection Efforts

Carbon Reduction Commitment – The United Kingdom requires any company of HCA International’s size to calculate its energy usage, which is then translated into greenhouse gas equivalents. This effort has started for HCA UK facilities and Greenhouse Gas information for energy used at the facilities (scope 1) and energy purchased by the facilities (scope 2).

Greenhouse Gas Data – Under consideration is the means and need to establish a methodology to identify and collect Greenhouse Gas information company-wide for scopes 1 & 2. If this data is collected, the data would be published with year to year comparisons.

Waste Stream Data – Data on the various dispositions of solid waste is being collected for U.S. hospitals as part of the Integrated Waste Management contracts. In addition, construction debris data is being collected for new construction projects. As part of the *HH Less Waste Challenge*, this information is shared with an external organization. HCA reported this information under the *HHI Less Waste Challenge* during the three-year initiative and also for each year after HHI transitioned to HH; the most recent reporting of information to HH took place in 2018, reflective of the 2017 year.

Waste Stream

Pharmaceutical Waste Disposition – PharmEcology has been contracted to identify the proper disposition of pharmaceutical waste. Pharmaceuticals in the water is an area of increasing publicity and interest. There are specific rules on the disposal of some pharmaceuticals and best practices that discourage sewerage for all others. This program is implemented in all clinical settings at HCA affiliates. Educational materials also were developed to assist hospitals and surgery centers with capturing and disposing Operating Room back table irrigation containing pharmaceuticals. In 2017, a new Pharmaceutical Waste continuing education course was released. The pharmaceutical waste programs continue to be evaluated.

Integrated Waste Management – Two companies conducted successful pilots to manage waste streams at a guaranteed savings over current spend. Dual source contracts were awarded to both vendors. The vendors were to achieve savings by renegotiating disposal prices and increasing recycling rates. This project also includes tracking of various waste streams’ poundage. There is also training provided to employees on proper disposal and recycling practices. In 2017, there were 32,089,694 pounds of non-construction waste recycled.

Rechargeable Battery Recycling – This is a program that recycles rechargeable batteries that no longer can hold a charge. In 2017, the provider expanded the program to begin accepting alkaline batteries and changed from a free service to a fee service. In 2017, 6,173 pounds of rechargeable batteries were recycled through this program rather than being landfilled. The provider of the rechargeable battery recycling program continues to explore opportunities for increased recycling from our hospitals. Rechargeable battery recycling is also accomplished through integrated waste management.

Cardboard Recycling – A checklist was developed and sent to every hospital to explore the feasibility of recycling cardboard. Most facilities already recycle to some extent. The other facilities are encouraged to begin cardboard recycling (upfront costs are offset by later savings).

Polystyrene Reduction / Increased Composting – In conjunction with the Environmentally Preferable Purchasing Task Force, alternatives to polystyrene for takeout food containers are being considered. These alternatives do not biodegrade under ordinary landfill conditions. Normal consumer-level composting also does not break down these alternative products. Consumer-level composting also does not work with meats, fats, oils and greases. Because of these limitations, any normal composting program would require the separation of food waste left on a plate into compostables and non-compostables. Commercial composting generates the higher heats necessary to break down the polystyrene alternatives and also allows all food waste to go into the same container for composting. Unfortunately, the haul distance for many commercial composters makes this alternative unworkable. The Waste Stream Task Force will work on identifying alternative products, commercial composting locations, commercial composting on site, and where it makes sense, encouraging local governments to get into the commercial composting business.

Mercury Reduction – Almost all facilities have significantly reduced the amount of mercury-containing devices within the facility. The feasibility of creating a policy to describe the virtual elimination of mercury in our facilities and eliminate bulb crushing will be considered. Steps are taken and contracts have been secured for proper waste disposal of items, such as fluorescent light bulbs.

Other Recycling Opportunities – As solutions are developed in one area of recycling, the Task Force will move to the next area that appears appropriate.

Duplex Printing – We will work on identifying opportunities to set default printer and copier settings to duplex (print on both sides). This will cut paper use by nearly 50%. This setting has already been implemented at HCA Corporate. This approach currently has limited utility when the paper is to be filed with a two-hole top punch as is common

in most clinical settings.

Integrated Pest Management – HCA was the first health system to develop specifications designed to decrease the amount and toxicity of chemicals used to control pests. These specifications were developed in conjunction with both a vendor and environmental services consultant. These specifications have been made available to other health systems through the Practice Greenhealth website.

New Construction

Pursuit of LEED Status – HCA’s Nashville Data Center has received Leadership in Energy and Environmental Design (LEED) Certified status, the Medical Office Building at Reston Hospital Center received Silver status, and Capitol View development in Nashville received LEED Silver accreditation. Medical City Alliance and Pearland Medical Center, two hospitals in Texas, each received LEED Silver accreditation. A vertical expansion at Medical City Dallas received LEED Certified status. A recently completed facility, Oviedo Regional Hospital in Orlando, Florida, was designed to be LEED accredited. There are also four additional projects targeting LEED accreditation in the design and construction phases in El Paso, Texas; Nashville, Tennessee; Plano Texas; and Orlando, Florida.

Environmental Building Scorecards – The LEED process or other building scorecards may be used to determine which sustainability options to incorporate in new buildings. For construction projects where LEED certification is not pursued, frequently the LEED scorecard is used as a guide; items from the scorecard which make economic and environmental sense will be implemented. This will generally avoid substantial administrative costs associated with pursuing certification.

Recycling or Reuse of Construction and Demolition Waste – In the first Quarter of 2011, a recycling program was instituted for new construction projects. In 2017, 67% of all construction debris was recycled, for a total of 21,150 tons. Concrete was the largest contributor by weight accounting for 35% of the total with wood accounting for 13%.

Alternative Energy Sources – Solar, wind and combined heat and power energy systems can be incorporated into new construction. An evaluation of the feasibility of these systems will occur for all future projects. A free-standing emergency room completed in 2012 uses geothermal energy to reduce the energy cost for heating and cooling. Results on this installation are very good.

Energy & Water Usage

Retro commissioning – There is an ongoing process to evaluate and help assure existing building systems such as heating, ventilating and cooling (HVAC) systems and other energy use within hospitals are operating at optimal energy efficiency.

Energy Operations Center – A center monitors building systems for HCA's portfolio of buildings in order to identify building system optimization opportunities and alert facility managers to energy and cost-saving actions. In 2017, energy reductions of about 30 million kWh from 2016 were achieved. As of 2018, 69 facilities were equipped with real-time metering. 122 facilities have been upgraded with the new Building Automation System software and hardware to better control building operating conditions for reduced energy consumption.

Minimum Efficiency Standards – There will be an exploration of the minimally-accepted efficiency standards for systems installed in renovations and appliances purchased. Advances in LED lighting technologies lower cost and better energy efficiency is moving this form of lighting into HCA's design standards.

Alternative Energy Sources – Five solar panel arrays have been installed at sites in Tennessee. At three locations, assessments were conducted of the feasibility of using wind energy. Wind energy was not economically feasible for these locations at the time. The company continues to consider new technologies or approaches to expanding alternative energy within our portfolio.

Water Usage – Water consumption efforts continue with improvements in energy efficiency that reduce water used for cooling operations and installation of water-efficient fixtures. Where water-saving measures have been implemented, over 3,300 gallons of water is saved a year for each patient room. FacilitiGroup has undertaken a standardization initiative in our water treatment program to use less chemicals and reduce water systems losses through a quality management approach.

Energy Star – Energy Star is a U.S. Environmental Protection Agency (EPA) voluntary program. To earn certification, a facility that applies must operate among the top 25 percent of similar facilities nationwide, with no sacrifices in comfort or quality. Two HCA facilities have been Energy Star certified previously, one for 2016 and one for 2017. HCA continues to explore Energy Star certification for facilities.

Environmentally Preferable Purchasing

HealthTrust Contracting – The principles of Environmentally Preferable Purchasing

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(EPP) are built into the standardized Contracting Process used by HealthTrust, acting as the Group Purchasing Organization for HCA, and will be applied at the contract/category level. While not all agreements cover goods or services with EPP relevance, the initial screening will be conducted on all agreements at the time of their regularly-scheduled expiration. HealthTrust has adopted the use of standardized question sets for patient care and electronic devices. These questions were developed for the healthcare industry by a GPO work group in which HealthTrust participated. Details about the work group and standardized questions can be found at the following link: <https://practicegreenhealth.org/gsc/standardized>. In addition, HealthTrust and HCA, through HealthTrust's Environmental Sustainability Network (ESN), are developing the use of standardized question sets for electronic medical devices. This has had coordination with Practice Greenhealth. The standardized questions are being included in selected HealthTrust contracts to identify environmentally preferable attributes for the items covered in these agreements. This information is used in the source selection process.

Purchasing of Reprocessed Single-Use Devices – There is an existing program to use FDA-approved reprocessed single-use devices to reduce waste and save costs. In 2017, over 786 tons of waste was diverted from landfills and \$29 million in cost savings were achieved through the program.

Purchasing of Reusables – Existing contracts provide the ability to purchase certain reusable items rather than disposable items. This applies to, among others: gowns, drapes, basin sets, instrument cases, and patient grounding pads.

Identifying a Greener Alternative – As contracts are renewed, an effort is being made to ensure greener alternatives are made available for purchase.

Minimum Standards for Items to be Purchased – An exploration of the minimally-acceptable sustainability attributes for items to be purchased is being done for some items. For example, almost all computer-related purchases must be Electronic Product Environmental Assessment Tool (EPEAT) certified. Similarly, most consumer electronics offered for sale under contract must meet Energy Star criteria.

Improved Availability of Information regarding Green Attributes –The incorporation of sustainability attributes and the ability to compare products based on their attributes has been requested to be included in the new catalogue purchasing system being designed by HealthTrust.