Sustainability Guide

Introduction
The question “How do I get started?” is always top of mind when facilities managers venture down the sustainability road. This sustainability guide was developed to provide step-by-step directions for proceeding on a path toward sustainability. Whether embarking on a new journey or solidifying an established effort, the following guidance will help define a path to sustainability in your health care facility.

1) Establish a sustainability champion.

The initial step in a sustainability program is identifying the point lead person or people: your sustainability champion(s). A sustainability champion’s background varies, but it is essential that they have a notable passion for sustainability. The champion’s specific role and responsibilities should be defined clearly and recognized by each department lead with whom they will be interfacing.

A clear reporting structure between the sustainability champion and facility manager (or other department lead, depending on the team) will lead to the success of this position. The sustainability champion and the individual to whom they report should have a direct reporting relationship. It is crucial that this team share a mental model of the facility’s sustainability vision and measures of success, as well as the accountability structure that will allow them to achieve that success.

2) Familiarize the sustainability champion with educational resources on the Energy to Care website.

The Energy to Care website contains an abundance of resources to assist health care facilities on the journey to sustainability. The educational tools contain unbiased resources that empower facilities with actionable tasks to improve their environmental footprint. Resources include the following:

- **Energy to Care Toolkit**: Reduce energy use and get the most out of the Energy to Care Program with the resources in this toolkit.
- **Energy Conservation Measures**: Integrate sustainable practices into the health care environment with these guides.
- **Energy to Care Benefits Calculator**: Use actual data to estimate the benefits of your participation in the Energy to Care Program.
- **Success Stories**: Read about the health care facilities that have experienced energy savings through the Energy to Care Program.
- **Sustainability Tips**: Gain knowledge related to reducing energy usage and associated costs, motivating employee behavior and more.
- **Energy University**: Take advantage of 200+ free courses to help you identify implement and monitor efficiency improvements.
- **ASHE Monographs**: Browse ASHE’s extensive collection of monographs authored by experts in the field.
3) **Track energy use with the Energy to Care Dashboard.**

ASHE developed the Energy to Care Dashboard Tool to help health care facilities track, manage and communicate energy savings. The dashboard, designed for easy use and to reduce user burden, offers a tailored, at-a-glance view of a health care facility’s energy use. By benchmarking data on the Energy to Care Dashboard, facilities can gain an understanding of their energy use and take action to improve their energy performance. The dashboard provides an array of capabilities to help health care facilities achieve their goals.

[Click here](#) to learn more about this confidential and complimentary energy management tool.

4) **Develop an energy use profile.**

An energy use profile will demonstrate how energy use is distributed among building systems (e.g., heating, water, lighting, office equipment, refrigeration) as well as identify the energy source for each system (e.g., natural gas, fuel oil, district heat/power, electricity). Submetering can be provided for discrete building systems to further distinguish their performance and help identify further reduction opportunities. Breaking down energy consumption data by discrete systems allows a more strategic approach to targeting improvement efforts. Also, including energy cost in your baseline and energy use profile will make it easier to recognize your best opportunities for improvement.

5) **Complete a greenhouse gas (GHG) emissions inventory.**

It may be optional, but some communities/states require a GHG emissions inventory. GHG emissions link directly with measuring your energy consumption through your energy use profile. The [Climate Registry](#) provides a description of GHG emissions and tools to help perform an inventory of your facility’s emissions.

6) **Establish a green team.**

Green teams (or any formal energy working groups) are critical to the success of an energy reduction plan. If a green team already exists, consider adding energy management as a standing topic to its agenda. Ensure that you have the correct stakeholders engaged at the table:

- The sustainability champion(s), who will facilitate the green team and its meetings.
- An executive sponsor, ideally a champion from the C-suite. If you can’t engage an executive sponsor right away, start with department leads.
- The CFO or one of their direct reports.
- Operational leaders such as facilities, environmental services, housekeeping, space planning, supply chain, nutrition services, etc., who may be invited by your executive sponsor.
- Clinical leaders who have influence throughout the organization.
- A project or construction manager to help manage implementation and coordination efforts.
• A communications, marketing or public affairs leader.
• Passionate front-line staff, including doctors, nurses, housekeepers, security officers, etc.

As you develop the green team, keep the following in mind:

- Depending on the size of the organization, a single green team may be enough. Within that team, you may consider creating smaller groups to tackle different types of tasks. Larger organizations may need to consider a multi-layered structure with a council and committees underneath.
- Develop a clearly articulated vision, mission and list of responsibilities for the green team members.
- Set up recurring meetings with agendas and clearly assigned tasks in the interim to move the work forward. Ensure you are assigning tasks, and not just listing them.

See Sustainability Tip #17 for more information on developing a green team, and be on the lookout for an upcoming ASHE monograph that will offer additional guidance related to sustainability and green teams in health care facilities.

7) Set targets/goals that consider fossil fuel emissions.

Fossil fuel emissions are by far the largest source of emissions from hospitals (typically around 95%). If a health care facility reduces fossil fuel consumption, it significantly reduces its overall emissions. Assessing emissions based on your facility’s fossil fuel usage simultaneously allows for flexibility in analysis and for measurable reductions in fossil fuel emissions. By defining your targets with fossil fuel emissions in mind, your energy use analysis may account for on-site renewable energy and utility company renewable supply sources, reductions in energy demand, and renewable energy credits.

8) Perform an Energy to Care Treasure Hunt.

ASHE offers the Energy to Care Treasure Hunt program, allowing teams to discover significant energy-saving opportunities at a host health care facility. The hunts are one- to three-day events that bring together professionals from a variety of backgrounds. Their collective expertise provides an invaluable survey of the facility, revealing energy savings and translating the savings to the organization’s senior leadership. The program has been designed in a train-the-trainer format that empowers each participant to perform treasure hunts at their own facility on an ongoing basis.

Click here to learn more about ASHE’s Energy to Care Treasure Hunt Program.

9) In conjunction with or following the Energy Treasure Hunt, publish and distribute media reminding users to make behavior changes such as turning off lights and monitors.

Since much of what facilities staff does can go undetected, it’s especially important to highlight sustainability initiatives and bring awareness to every level of the organization. Doing so will demonstrate the value that the facilities and green teams add to the organization and engender an environment for positive, collaborative change. Simple actions such as posting reminders to
turn off lights, monitors and other equipment can make a significant difference. Work with the internal marketing team to share incremental successes (quantified energy savings) via organizational emails and newsletters. Specifically recognize the people involved in the change and the steps they took to get it done. Acknowledging the team members will encourage them and others to continue their efforts and create momentum to keep the program moving forward.

10) Create a sustainability plan with short-term and long-term priorities to hit the energy reduction goal (and other sustainability goals), as well as a capital management plan.

Environmental sustainability is not achieved overnight or with one or two solutions, but after a long series of incremental improvements to your facility’s operations. This section includes a sample of items for you and your team to consider as you develop your sustainability and capital management plans.

Energy

Energy is likely one of your facility’s costliest and most environmentally impactful utilities. Fortunately, it is relatively straightforward to leverage established energy-saving guidelines and related technologies that have been developed over the past few decades. There are numerous examples of institutions that have reduced their energy consumption while continuing to grow and provide quality care and outcomes. Energy efficiency should not compromise the mission of your health care facility and, if executed well, should enhance it. Inherently, there’s not a lot of risk in making these improvements.

Water

According to Michigan State University, water service costs are increasing in the U.S.. Scarcity, climate change, political changes, aging infrastructure and water quality may all be drivers, depending on your location. The cost of water varies by more than a factor of 30 in the U.S. and is highly localized. Facilities 10 miles apart may have radically different water rates.

Water efficiency is similar to energy efficiency in many respects, but is a decade or more behind in development. Fortunately, the path to water efficiency is parallel to that of energy efficiency. Like energy, water efficiency begins with benchmarking. The 2007 and 2012 Commercial Building Energy Consumption Surveys (CBECS) both contain water consumption metrics for health care facilities. The ENERGY STAR Portfolio Manager includes provisions for tracking water consumption. In May 2019, the National Resources Defense Council published its first water audit guide.

Waste Reduction

Hospitals generate a lot of solid waste. The waste is generally classified in four categories: recyclables, general waste, red bag waste and hazardous waste. With each waste classification comes a different level of cost and environmental impact. Depending on your location and arrangement with your waste hauler, recycling may be cheaper or more expensive than your general waste. However, recycling is always encouraged as a best practice regardless of the cost, if a program is available. Red bag waste and hazardous waste require special treatment that may increase your waste costs by a factor of 10 or more. Waste audits can help you identify where your waste is going and if or how you can manage both the cost and environmental impact.
**Refrigerants and Specialty Medical Gases**

While often relegated to environmental obscurity, refrigerants and specialty medical gases are potent greenhouse gases that are often hundreds or thousands of times more impactful than carbon dioxide. Controlling refrigerant leaks is an absolute must. As you replace equipment that uses refrigerants, select new equipment that contains refrigerants with a low global warming potential (GWP) and low ozone depletion potential (ODP).

Over the last few years, it has become clear that anesthetic gases including nitrous oxide have high GWP and ODP levels. Alternate gases, such as isoflurane, not only reduce environmental impact but are also more cost-effective. Anesthesiologists are encouraged to investigate the clinical impacts of these alternate gases in ASA publications. In parallel, facilities staff should investigate leaks from N₂O tanks, pipes and gas ports.

**Nutrition**

The environmental impact of food has emerged as a hot topic in sustainability circles as more information becomes available and alternate solutions are developed. Meat in general and beef in particular have been targeted for their environmental footprints. Emissions from the animals themselves, water quality impacts due to concentrated sources of animal waste and the amount of farming required to grow enough feed for the animals add up to a significant environmental impact.

Ask your food service provider to prioritize plant-based choices on menus and in displays and offer plant-based meat alternatives that have recently gained greater attention. These simple actions may reduce the environmental impact of the foods you provide.

11) **Implement projects.**

   Execute [energy conservation measures](#) (ECMs) that will result in energy and emissions reductions for your facility.

12) **Create a training plan for operations and maintenance (O&M) personnel to operate building as designed or better, if optimization is possible.**

   Proper operations and maintenance personnel training is key to optimum building performance, with performance defined by maintaining appropriate space temperature, humidity and pressure using the least possible energy consumption. This is particularly important in health care with its complex space uses, code requirements and ages, and building shapes and configurations. In order to effectively maintain and/or optimize building performance, operators must basically understand the systems used to provide the performance as well as the intention behind those systems.

   Regardless of a facility’s age, size or equipment sophistication, every organization should have an M&O training program and track staff qualifications to ensure they are adequately trained to maintain and operate existing and planned systems. A recurring training program should consider both the skills required and the available labor pool in the geographic area. Again, for health care and sustainability especially, the training must explain the systems’ purpose to allow the operators to make informed decisions.
Additional significant benefits from job training include productivity and job satisfaction, which are critical in staff development and retention.

13) Track, measure and report with measurement and verification protocol.

Develop a measurement and verification (M&V) protocol early in your sustainability program to quantify savings, plus a method of reporting these savings to stakeholders – put simply, create a protocol to clearly demonstrate your energy-saving successes to others. An M&V plan should verify savings thoroughly, such that all relevant parties are reasonably comfortable with the identified savings accuracy.

During your search for an M&V methodology, consider the following:

- Is it defendable?
- Is it documented?
- Can it be reasonably maintained?
- Is it easy to follow for a wide range of interested parties?
- Is it flexible enough to account for a wide variety of projects and future program changes?
- Is it cost-effective in the context of the overall financial goal?

There are many reasons to identify an M&V protocol as early as possible in your sustainability program, including establishing your baseline and successfully encountering challenges.

The baseline is the most critical aspect of any sustainability effort. As you establish your baseline, remember that it must be defendable and flexible as the sustainability program grows. There will be changes to your baseline: Unlike office buildings, health care facilities undergo frequent additions, renovations, upgrades, new equipment, etc. This dynamism must also be considered when designing an M&V program. You should be prepared to maintain changes to the baseline data in a way that will allow others to understand and follow its progression.

Along the way, your M&V program will be challenged. Someone, from building visitors and new management or team members to the CFO, will want to understand how your team is measuring savings from your sustainability efforts. Questions about savings for specific projects or programs can occur at any time, even many years after the program is completed. Your M&V program must be designed to succinctly address these questions to cultivate organizational confidence in your efforts, no matter when those questions come up.

No M&V program is perfect; there will be issues to face regardless of the methodology and baseline chosen, but it is important to determine the best fit for your facility and its circumstances.

Once you decide on an M&V program, document the basic reasons the particular program was chosen, and all subsequent data needed for each facility. Consider recruiting a communication, marketing or public affairs leader in your organization to publicize savings and demonstrate the organization’s commitment to sustainability.

14) Educate.
Informed staff are engaged staff. Effectively communicating the need for sustainability and providing training and guidance on how to implement specific strategies can help an organization achieve greater reductions and gain more support for initiatives. Success is easier to achieve when users understand the reasons for any changes (the goals), trained on work practice changes (how to engage) and regularly informed on how action plan progress is matching up to goals (progress reports). Education is both formal, with specific learning objectives (compliance or policy-related training should be documented), and informal, with educational materials provided via posters, newsletters, e-blasts, and other media.

15) Celebrate!

Recognizing individual and collective efforts through awards or other recognition programs also provides opportunities to celebrate and communicate the valuable work being accomplished. Don't let a success go unrecognized. Apply for an Energy to Care Award or Energy Champion Award, and become involved in the Energy to Care Chapter Challenge.

[Click here](#) to learn more about Energy to Care recognition programs.