



A climate-friendly roadmap for health care

Cleaner communities, healthier hospitals

There's no question that the impact of climate change is a leading concern among countless business sectors, but it is exceptionally perplexing within the healthcare industry. Climate change has direct consequences on the healthcare sector as it continues to impact our well-being, globally. Concurrently, the healthcare sector is a major contributor to the causes of climate change. Therefore, it's reasonable to assume we must address the source of healthcare-related greenhouse gas emissions to minimize their negative effects on human health.

But designing a plan requires considerable thought, expertise, and resources; the complexities of where and how to start can be paralyzing for most healthcare institutions. Here, we identify some healthcare decarbonization initiatives to consider and offer tangible tips to design and implement them.

The dirty fact: Is it really as bad as it sounds?

Yes. In the U.S. alone, health care accounts for nearly 20% of GDP, making it a major consumer of resources and thus a major producer of waste and greenhouse gases — 8.5% of all U.S. carbon emissions stem from the healthcare sector.¹ In fact, compared to other healthcare systems globally, the U.S. is among the top emitters of carbon and is responsible for 25% of global health sector emissions, which is the greatest proportion among all global health sectors.²

¹ Eckelman, M. J., et al. 2020. Health care pollution and public health damage in the United States: An update. *Health Affairs* 39(12). <https://doi.org/10.1377/hlthaff.2020.012471>

² Ibid.

The top five healthcare culprits

In an effort to address these impacts, the National Academy of Medicine (NAM) has targeted a primary source of healthcare carbon emissions: facility operations. Specifically, NAM identified five key areas where hospitals and healthcare systems can look to reduce their GHG numbers:

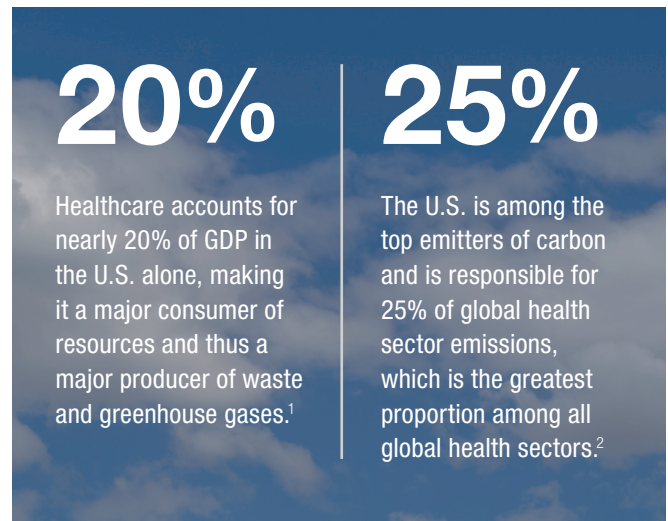
1. Anesthetic gases and pressurized, meter-dosed inhalers
2. Physical waste and single-use plastics
3. Food service
4. Building emissions
5. Transportation emissions

With consideration to NAM's "Top Five" list, let's look at two specific areas of focus: building emissions and transportation emissions. Why?

- These projects typically have a proven track record in delivering optimal value and ROI.
- Given the right resources, nearly any medical facility can plan and start implementing now.

Pulling both levers

Most businesses today recognize the benefits of creating a more eco-friendly business model. Facility and campus improvements are typically (and quickly) rewarded by cost savings, and often integral to longer-term sustainability goals. For hospitals, however, energy is a double-edged sword and sustainability is critical. In fact, having access to reliable backup power can determine life-or-death outcomes during natural disasters or other disruptions to the power grid.



Especially in the healthcare sector, taking action to reduce energy consumption and demand is equally important for a successful decarbonization plan.

Lever 1: Reduce energy consumption

Energy Efficiency: A path to cost containment

To appropriately size and scope your energy demand, reduce your facility's energy consumption. Putting energy-efficiency improvements first is not only a practical starting point, it makes good business sense. Healthcare facilities and campuses can realize immediate savings with a number of energy-efficiency upgrades, as shown in the table below:

GHG emissions source	Reduction and improvement opportunities
Healthcare facilities and campuses	<ul style="list-style-type: none"> • Improve building energy efficiency and electrification (e.g., LED lighting, HVAC system and air control upgrades) • Replace or upgrade boilers and chillers • For new buildings, implement energy-efficiency strategies into design and construction
Transportation	<ul style="list-style-type: none"> • Replace gas-powered fleet vehicles with Electric Vehicles (EV) • Install onsite charging stations for staff members, patients, and fleet vehicles • Create or expand telehealth programs • Promote use of public transportation and carpooling by offering commuting incentives



Lever 2: Lower energy costs

Distributed Generation: An onsite energy hero

Distributed generation helps reduce energy consumption and costs, as it decreases the amount of electricity derived from centralized power plants. But this sustainable technology has robust capabilities far beyond the quick-hit measures listed on the previous page.

Distributed generation allows a facility to harness energy that might otherwise be wasted during transmission from a centralized power source, which benefits the environment and operating costs. But more importantly, it helps hospitals retain energy security during power outages or other disruptions to the electric grid. Examples of distributed generation initiatives for hospitals include:

- Power resiliency and redundancy systems (e.g., fuel cells, combined heat and power [CHP])
- Integrated communications and systems with Smart technologies and the Internet of Things (IoT)
- Electricity derived from renewable sources (e.g., solar, solar thermal, geothermal)

Solar

Solar power is clean, readily available in the U.S., and inexpensive.³ **Solar Photovoltaic (PV) systems** can help meet the basic services for hospitalized patients more cost-effectively than traditional energy sources. For instance, lighting, monitoring, kitchens, and entertainment can all be powered by Solar PV.

By pairing solar PV systems with **storage**, hospitals can power critical equipment through an outage. While they may need to be supplemented with generators in times of high demand, solar storage alternatives offer a sustainable, safe solution to power crucial life-saving devices.

Solar thermal technology has been adopted in healthcare institutions, as well. When used to heat water and buildings, or augment conventional steam or hot water systems, this technology provides dual economic benefits.

Geothermal

Geothermal energy (e.g., **geo-exchange or ground-source heat pumps**) transfer the Earth's energy into heat or electricity. These technologies can be used to provide heat in the winter and air conditioning in the summer, as well as critical, high-demand energy sources for hospitals.



How to pay for environmental stewardship

The alarming rate of climate change makes timing critical — for people and planet. But taking ownership of the negative environmental impacts related to providing quality health care presents a complicated, costly dilemma for the sector. Furthermore, an effective carbon reduction plan requires significant capital and human resources. While investing in sustainability has proven, positive results, how do you pay for it and where do you begin?

³ <https://practicegreenhealth.org/renewable-energy-sources-hospitals#:~:text=Combining%20renewable%20energy%20with%20electricity,time%20and%20do%20not%20diminish.>

Key Equipment Finance



Think big with a smaller footprint

Some healthcare facilities seek detailed guidance to upgrade equipment and systems, while others have sustainability plans in place and need implementation resources or funding support. Still others are somewhere in between.

Regardless of the size of your organization or scope of your project plan, equipment financing allows you to move these important initiatives from framework to fruition.

The benefits of financing reach far beyond an immediate capital solution to deliver:

- The ability to act now
- Improved cash flow with no- or low-down-payment requirements
- 100% financing, which allows you to invest in a sustainable, scalable solution
- Optimal flexibility, from payment terms to technology upgrades and add-on options
- Bundling capabilities that optimize capital and operating budgets

Customized financing solutions for distributed generation systems include:

- Tax equity
- Power Purchase Agreement (PPA) financing
- Managed services
- Energy as a Service
- On-bill utility programs

A checklist for investing with confidence

Today, doing the right thing as a healthcare provider requires more than providing quality care with state-of-the-art technology for an affordable price. But taking responsibility for the global good without specialized expertise could lead to a ripple chain of risks.

Questions to ask when vetting funding providers to help you implement clean initiatives:

1. Do they have medical facility expertise and energy asset knowledge?
2. Can they customize sustainable, scalable financing structures to support your goals?
3. Do they understand your business model and objectives?
4. Will they simplify the process by offering deep technical acumen and comprehensive support?
5. Do they bring energy-focused relationships and strategic vendor partner alliances?
6. Are they strategic by nature and personal stewards for improving health and environmental conditions?
7. Last but not least, can they help create a strategic plan to reduce your organization's energy consumption and deploy more sophisticated systems and power generation initiatives?

Learn more

For more information about healthcare financing for clean energy initiatives, please contact us today.

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A climate-friendly roadmap for health care | 4 of 4