

Renewable electricity procurement

A critical component of a healthy energy strategy for health care institutions



Procuring renewable energy is a highly impactful step your institution can take to reduce its carbon footprint and negative health impacts. The cost of renewable energy sources, such as wind and solar, has fallen dramatically in recent years, and accessing them is easier than ever making a shift to renewables much simpler and more cost-effective than in the past.

The opportunity

Hospitals are energy-intensive, using 2.5 times more energy per square foot than a typical office building. The burning of fossil fuels drives both air pollution and climate change, with outdoor air pollution killing more than [4.5 million people](#) each year globally. Renewable electricity can replace power from fossil fuels, improving health, reducing climate impacts, and potentially reducing energy costs and price risks.

A 30% reduction in the U.S. health care system's electricity consumption by 2030 would prevent an estimated 4,130 premature deaths, 85,000 asthma attacks, 4 million respiratory symptom events, and 3,750 hospital visit incidents, saving about \$1.2 billion in medical costs.

Hospitals and health systems around the world are investing in clean, renewable energy to protect the health of their patients and the communities they serve, attract and retain top-tier talent, increase the resilience of their operations to disasters such as extreme storms, and in some cases, reduce energy costs and price volatility.

Over the last decade, wind energy [prices have fallen](#) 70%, and solar photovoltaics have fallen 89% on average with the price of renewables falling below the cost of coal in 2018. The cost of renewables is forecasted to beat fossil fuels by ever-larger margins for decades to come. Distributed renewable energy plus storage can help hospitals remain operational during extreme weather events or periods of peak demand.

Getting started

1. Think local. Explore the feasibility of onsite and community-based renewable resources, such as solar and storage, that can reduce energy costs and demand charges as well as make a local impact and a visible statement of your institution's commitment to a clean energy future.

2. Go big. Learn more about large-scale, offsite renewable energy procurement options available in your area, including Power Purchase Agreements (PPAs), Virtual Power Purchase Agreements (VPPAs), and Utility Green Energy Offerings (Green Tariffs).

3. Bring your friends. Explore partnerships with municipalities, companies, or other anchor institutions to multiply the impact and reduce the cost of your renewable energy purchases. Aggregation deals and community solar can leverage your institution's market power to open up renewable energy access to partners, suppliers, and the communities you serve.

How Practice Greenhealth can help

Smart energy buyers are developing clean energy portfolios that combine strategies, such as onsite solar and storage, large-scale offsite renewable energy deals, community solar, utility green energy programs, and Renewable Energy Certificate (REC) purchases, to meet their energy needs and financial goals while advancing their public health mission and mitigating climate change.

Practice Greenhealth measured a 167% increase in hospitals reporting they are investing in renewable energy since 2014, with 56% of all reporting hospitals generating onsite or purchasing offsite renewable energy. If you are interested in procuring renewable electricity, Practice Greenhealth can help you understand the economics of clean energy, potential market barriers and policy obstacles, how to make the business case, and how you can use your renewable energy procurement strategy to drive positive local environmental and economic impacts. We will help you develop your clean energy strategy, connecting you with resources, a community of experts, and a network of your peers, as well as explore potential cross-sectoral partnerships to best help you achieve your renewable energy goals.

Success story

In January 2019, Rochester Regional Health, a five-hospital system located in upstate New York, announced a goal to use 100% renewable electricity by 2025. Since announcing the goal, Rochester Regional installed onsite solar that generates 450,000 kWh electricity annually, supplying enough power for 20 blood draw labs, and signed a power purchase agreement for electricity from a new solar farm that generates over 5,000,000 kWh annually, enough to power 120 medical practices and support facilities. The onsite solar had a return on investment in less than four years, and the offsite installation had no capital outlay and provided immediate cost savings.

In early 2020, the health system signed contracts to build five to seven solar farms through New York's community solar program. Rochester Regional will buy 40% of the power from the arrays and the remainder will be available for community members within the same service territory that might otherwise not have access to renewable power. This additional solar will bring Rochester Regional to 25% renewable electricity, offsetting 10-15% of the main hospital and over 50% of the other four hospitals with anticipated savings of \$330,000 annually.

Learn more

Renewable energy resources, availability, and policies vary significantly between markets, and every buyer has different needs. There is no one "right" approach to procuring renewable energy. In fact, most major buyers utilize several different approaches to diversify their portfolio, drive impact, and minimize market risks. The main approaches buyers take to procuring renewable energy include:

Onsite generation

Depending on local regulations and incentives, onsite renewables, such as rooftop solar, have no transmission costs and can often reduce costly demand charges (especially when paired with storage). As a result, they may offer the best financial savings despite having a higher sticker price than utility-scale offerings. Being highly visible, they may also maximize reputational benefits (especially to employees working onsite), and ensure a positive local

impact. Innovations in clean energy finance, such as leases and green bonds, can reduce or eliminate capital requirements for such onsite projects, and buyers are seeing increasing success working with their utilities as well as the owners of their leased facilities to eliminate additional obstacles. onsite generation can be paired with battery storage and is often coupled with other strategies where onsite space is not sufficient to fully meet the energy needs of the buyer. [Learn about onsite solar RFPs.](#)

Community solar

Because community solar requires policy action, it is only available in a limited (though growing) number of states. This mechanism allows renewable energy customers, large and small, to buy into local, large utility-scale projects together. This brings the cost savings and environmental benefits of solar to all buyers including small businesses, households, and low-income consumers. For larger buyers, this is a great way to ensure a positive local impact, by using your market power to increase renewable energy access for others as well (including employees, local community members, suppliers, community organizations, etc.) The terms and availability of these programs can vary significantly based on the local policy landscape. Many buyers are using their policy voice to support and/or strengthen community solar access for them and for the communities they serve. [Learn more about community solar.](#)

Power purchase agreement (PPA)

Procuring offsite renewable energy through PPAs (PPAs can also be used to finance onsite installations) has become the leading approach to large-scale renewable energy procurement. Such deals can be combined with onsite generation to allow a facility to meet 100% of its demand with renewables. A PPA is an agreement between a buyer and a third-party owner or operator of a renewable energy (usually large-scale wind or solar) project. The buyer enters into a long-term contract to purchase renewable energy from one or more sources, and the power is delivered through the existing grid. As these offsite installations are often much larger than onsite installations, the economies of scale reduce generation costs. However, they can require the involvement of the utility, which can pose challenges in some areas, especially those served by a traditionally-regulated utility (VPPAs or green tariffs are more common in such markets). For larger-scale contracts, project developers often develop new facilities specifically for the customer which has clear and tangible reputational advantages for buyers. [Learn more about PPAs.](#)

Virtual power purchase agreement (VPPA)

Similar to traditional PPAs, VPPAs are long-term contracts to procure renewable energy from projects, such as wind and solar farms. The distinction is that with VPPAs, the project can be located in a different market from the facility or facilities consuming the power. As such, they are often utilized by buyers to provide energy to multiple facilities that are located in different markets (aggregating distributed load), in markets where physical or regulatory barriers exist to direct procurement of renewable energy (often regulated markets that lack customer choice), or to maximize impact by locating the renewable energy facility in an area where the grid power is more polluting. [Explore a case study.](#)

VPPAs are often referred to as a “contract for differences”. The buyer enters into a contract with a developer to purchase renewable energy and accompanying renewable energy certificates (RECs) produced by a facility. That power is then sold into the energy market where that project is located, rather than being delivered to the buyer. The buyer continues to purchase electricity from their local utility, using any proceeds from their energy sales to offset the price and retiring the RECs to be able to make a renewable energy claim. In short, buyers are producing

as much renewable energy as they consume, they're just doing it somewhere other than where they consume the power. VPPAs are innovative, yet complex solutions to renewable energy procurement and have proven very popular with large buyers. And while the price of power is very low, a buyer's financial savings depend on energy markets and are not guaranteed. Smaller buyers looking at VPPAs can often benefit from partnering with larger buyers through an [aggregation deal](#).

Green tariffs

Green tariffs are special rates set by traditionally regulated utilities for customers who wish to procure renewable energy. Customers access renewable energy directly from their utility through the existing grid and pay for it using existing billing systems. These programs help support the development of renewable resources by the utility, and in some cases, lead to new renewable energy development. These mechanisms are currently only available in a limited number of markets and their terms vary significantly along with the potential for financial savings and environmental impact. Where green tariffs are not yet available, buyers are leveraging their market power, often in concert with other major buyers, to negotiate such arrangements with their utility or demand them from regulators. This approach requires active engagement and leadership but also creates an opportunity to shape the offerings to meet their needs. Once negotiated, green tariffs have the potential to increase the availability of renewables for all customers, multiplying the impact of a buyer's actions. [Learn more about the availability of green tariffs](#).

Renewable energy certificate (REC) purchases

Buyers can also make renewable energy claims by purchasing the renewable attributes from new or existing renewable energy facilities equivalent to their energy consumption and retiring those RECs in their name. When implemented well, REC purchases provide financial support that allows for the development of new renewable energy projects. However, while simple and inexpensive, RECs are always an additional marginal cost, and thus provide neither a pathway to financial savings nor a hedge against price variability. To ensure REC purchases are impactful, buyers should pay close attention to both their source (the definition of renewable varies by jurisdiction which means some low-cost RECs may not meet your definition of renewable) and age. Purchasing RECs as a mechanism for procuring renewable energy is simple and available everywhere, and as a result, has long been the most common path for buyers. However, they are falling out of favor as the cost of direct procurement of renewables through other channels declines and availability increases. Today, most buyers use RECs either as a temporary measure to kick start their renewable energy efforts (since no long-term contracts are involved) or to fill gaps in their portfolios. [Learn more about RECs](#).

Let Practice Greenhealth help you lead change in your hospital. To get started today, email join@practicegreenhealth.org.