

A warm, golden-hour photograph of a family. A young girl with curly hair is laughing joyfully, her mouth wide open. She is being held by a man with dreadlocks, who is looking at her with a smile. Another person's head is visible in the foreground, looking towards the family. The background is a soft, hazy landscape under a bright sunset sky. A white circular arc is visible in the upper right corner.

20

OUR COMMITMENT TO
SUSTAINABILITY

25



**MONUMENT HEALTH'S
MISSION TO MAKE A
DIFFERENCE EVERY DAY
INCLUDES DOING OUR
PART TO CREATE A
SUSTAINABLE AND
HEALTHY ENVIRONMENT.**

We strive to improve the environmental performance of our health care services and facilities, while reducing our environmental footprint. Our efforts are driven by continually seeking fiscally and socially responsible approaches to improve patient safety while protecting public health.

Our organization is committed to making communities healthier and to protecting the environment by creating a systemwide culture of sustainability modeled by all Monument Health caregivers, creating a sustainability team to research and implement best practices and pursuing additional ways to reduce and process waste.



**ENVIRONMENTAL
STRATEGY KEY THEMES:**

1

Managing Energy, Water, and Emissions Responsibly:
Striving to reduce the amount of energy and water used, decarbonizing energy production and decreasing indirect emissions through purchasing sustainable supplies and minimizing use.

2

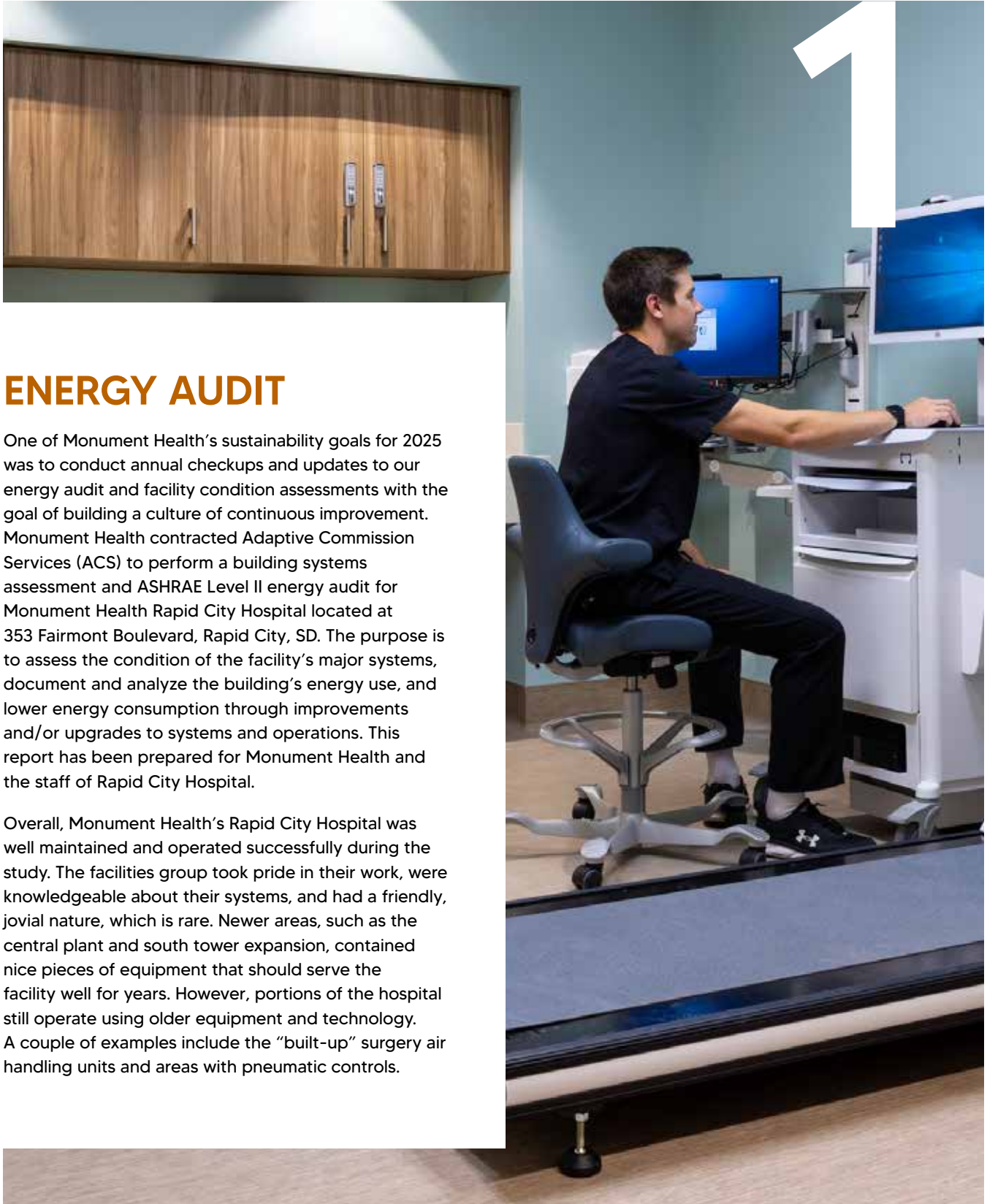
Sustainable Sourcing and Waste Reduction:
Limiting our impact on the environment and waste facilities by sourcing materials responsibly, reducing consumption, reusing where possible and minimizing food waste.

3

Community and Social Impact:
Promoting and encouraging social sustainability within the Monument Health organization and surrounding community.



OUR SUCCESSES IN 2025



ENERGY AUDIT

One of Monument Health's sustainability goals for 2025 was to conduct annual checkups and updates to our energy audit and facility condition assessments with the goal of building a culture of continuous improvement. Monument Health contracted Adaptive Commission Services (ACS) to perform a building systems assessment and ASHRAE Level II energy audit for Monument Health Rapid City Hospital located at 353 Fairmont Boulevard, Rapid City, SD. The purpose is to assess the condition of the facility's major systems, document and analyze the building's energy use, and lower energy consumption through improvements and/or upgrades to systems and operations. This report has been prepared for Monument Health and the staff of Rapid City Hospital.

Overall, Monument Health's Rapid City Hospital was well maintained and operated successfully during the study. The facilities group took pride in their work, were knowledgeable about their systems, and had a friendly, jovial nature, which is rare. Newer areas, such as the central plant and south tower expansion, contained nice pieces of equipment that should serve the facility well for years. However, portions of the hospital still operate using older equipment and technology. A couple of examples include the "built-up" surgery air handling units and areas with pneumatic controls.

2

GREEN GLOBES CERTIFICATION

Monument Health successfully achieved a 1 Green Globe certification on a newly constructed Urgent Care facility. Achieving this certification requires meeting rigorous standards established through the Green Building Initiative (GBI). The efforts to reach this goal started with the design and construction of the building, prioritizing energy efficient elements such as optimized HVAC systems, natural light, water conservation, and indoor environmental quality.

By optimizing energy and water usage, we can lower operational costs while contributing to a more sustainable and resilient infrastructure. Achieving Green Globes certification demonstrates our commitment to environmental responsibility, fostering positive relationships with our community. By prioritizing sustainability through this Green Globes certification, we can distinguish ourselves as leaders in environmentally conscious healthcare construction, attracting patients and staff who share these values.



3

FURNITURE AND EQUIPMENT REUSE PROGRAM

While reuse of furniture and equipment has always been a common practice at Monument Health, the process was not streamlined or thoroughly tracked.

In 2025, a performance improvement project was conducted using the Institute for Healthcare Model for Improvement. This project created an inventory system for used furniture and equipment that allows for accurate tracking and streamlined redeployment of resources.

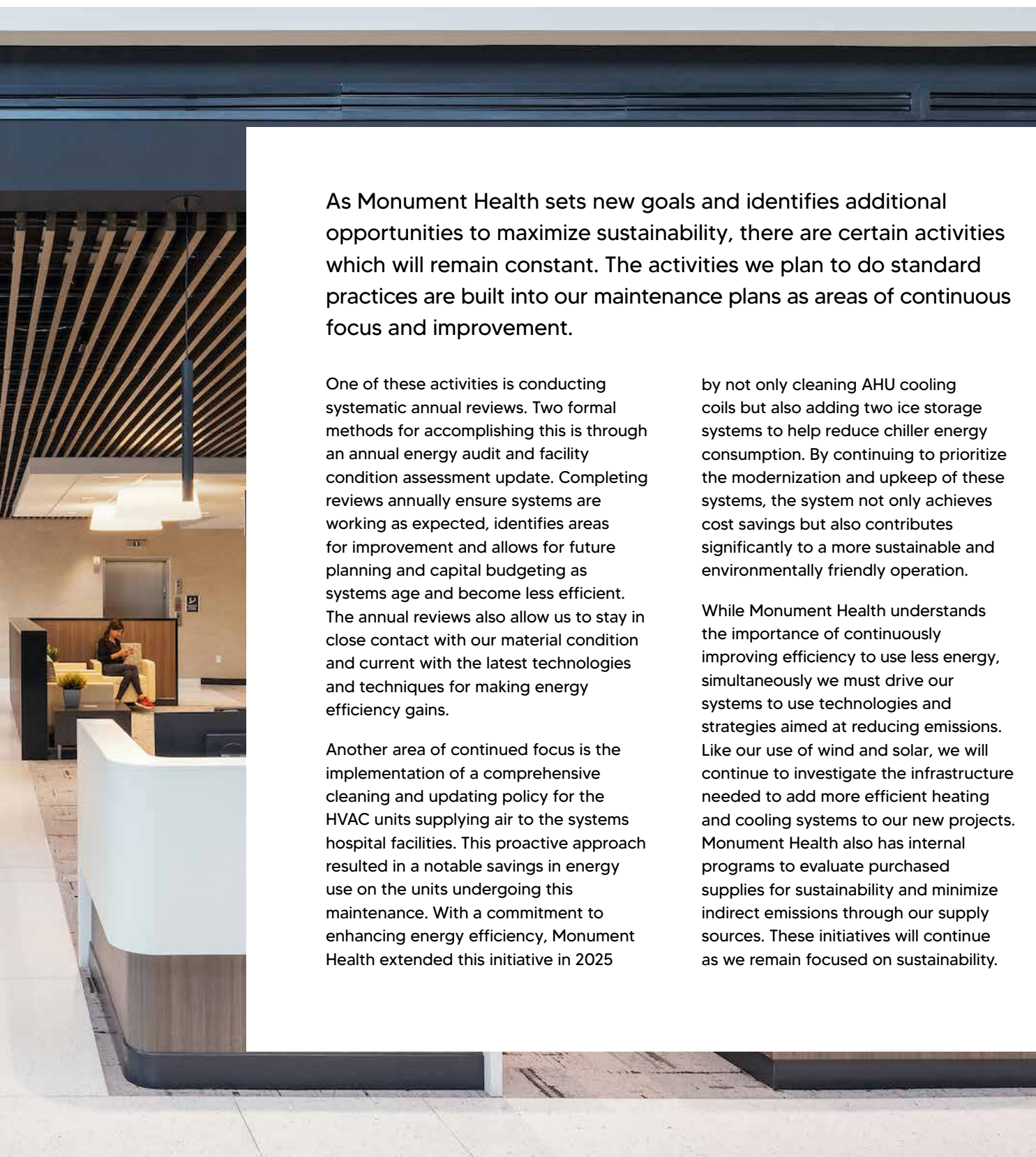
Implementation of the inventory system accomplished significantly higher percentage of reuse, resulting in financial savings for the organization, avoidance of over consumption, and a renewed focus to keep reusable items out of the landfill.

In 2025, approximately 200 pieces of used furniture and equipment were put back in to use.





STAYING FOCUSED ON THE FUTURE



As Monument Health sets new goals and identifies additional opportunities to maximize sustainability, there are certain activities which will remain constant. The activities we plan to do standard practices are built into our maintenance plans as areas of continuous focus and improvement.

One of these activities is conducting systematic annual reviews. Two formal methods for accomplishing this is through an annual energy audit and facility condition assessment update. Completing reviews annually ensure systems are working as expected, identifies areas for improvement and allows for future planning and capital budgeting as systems age and become less efficient. The annual reviews also allow us to stay in close contact with our material condition and current with the latest technologies and techniques for making energy efficiency gains.

Another area of continued focus is the implementation of a comprehensive cleaning and updating policy for the HVAC units supplying air to the systems hospital facilities. This proactive approach resulted in a notable savings in energy use on the units undergoing this maintenance. With a commitment to enhancing energy efficiency, Monument Health extended this initiative in 2025

by not only cleaning AHU cooling coils but also adding two ice storage systems to help reduce chiller energy consumption. By continuing to prioritize the modernization and upkeep of these systems, the system not only achieves cost savings but also contributes significantly to a more sustainable and environmentally friendly operation.

While Monument Health understands the importance of continuously improving efficiency to use less energy, simultaneously we must drive our systems to use technologies and strategies aimed at reducing emissions. Like our use of wind and solar, we will continue to investigate the infrastructure needed to add more efficient heating and cooling systems to our new projects. Monument Health also has internal programs to evaluate purchased supplies for sustainability and minimize indirect emissions through our supply sources. These initiatives will continue as we remain focused on sustainability.

Water is a vital resource, and our society must increasingly protect it as communities grow. Monument Health is working to reduce our water consumption through several efforts.

New plumbing fixture styles have significantly improved water use through automatic controls and efficiency. Monument Health uses these new plumbing fixtures when constructing and renovating our facilities.

Hospital cooling and heating systems use significant amounts of water to provide both occupant comfort and the high-quality conditions expected in state-of-the-art clinical spaces.

Nalco, an industry leader in water treatment, provides a treatment program to use fewer chemicals and minimize our heating and cooling systems' water use through automated controls and quality management.

WATER: A VITAL RESOURCE





In 2025,
we installed all
new toilet
fixtures at our
Behavioral
Health Hospital,
these toilets
will be more
water efficient.





SUSTAINABLE SOURCING AND WASTE REDUCTION



FOOD SOURCING, OPTIONS AND WASTE

Monument Health's Food and Nutrition Sustainability Platform is more than a resource, it's a daily commitment to health, equity, and stewardship. It connects the food we serve with how we source, prepare, and recover resources, turning nourishment into a force for healing and environmental responsibility. This commitment is demonstrated through multiple, strategic and intentional practices.

The first area this commitment is shown is through patient and community-centered nourishment. Meals are designed to respect dignity, culture and individual needs, using informed clinical guidance, while maintaining flexibility in practice.

We prioritize locally sourced, seasonal ingredients and maintain transparency in sourcing. Hospital menus feature local milk, bread and produce, paired with antibiotic-free chicken, eggs and milk, and sustainably harvested seafood. By offering ingredients that are both nourishing and responsibly sourced, we support recovery while upholding our values.

The second area of focus is utilizing data and stakeholder feedback to drive down multiple waste streams. Monument Health's Food and Nutrition team utilizes waste tracking software to monitor trends, identify opportunities for improvement

and continually adopt practices to minimize waste. This initiative extends to use of environmentally responsible packaging, energy-efficient kitchen practices, streamlined operational practices across service lines to reduce labor waste and improve efficiency, and we actively recycle aluminum to close the loop.

Monument Health's third, very meaningful food sustainability effort, is demonstrated through community partnerships and resource recovery. Monument Health partnered with numerous local organizations to recover unused food and repurpose it for underserved and underprivileged populations. This not only reduces waste but expands the reach of nutritious meals to those who need them most. Food that is not suitable for community distribution is provided to farmers to feed their animals, or to be used for composting to nourish their future crops.

Food sustainability is achieved through accountability, metrics and storytelling. We track progress with clear data, share success stories to inspire and build a culture of sustainability and continually refine our approach to keep meals nutritious, affordable and sustainable for every patient, staff member, and visitor. These areas will remain a priority in Monument Health's sustainability strategy.

VENDOR SELECTION, PRODUCT SOURCING AND MATERIALS MANAGEMENT

Monument Health's Real Estate and Interior Design team has established relationships with vendors who share Monument's vision in sustainability and offer environmentally friendly products and services.

Kimball International

- Kimball International operates under a stringent Environmental Policy, guided by a process of continual improvement in its environmental performance which supports their sustainability strategy.
- Kimball International strives to ensure that wood used in the manufacturing of their products is obtained from environmentally and socially responsible sources.
- Through the Design for Environment (DFE) protocol, Kimball not only manages the raw material selection during the design phase, they also consider all aspects, from additives, treatments and coatings that are added to the final product, to considering the potential impacts to the end-of-life.

Tarkett (Flooring products)

- Standard carpet is 34% recycled post-consumer content, 41% pre-consumer content, for a total of 75% total recycled content.
- Focus on chemical avoidance. For example, all products are Polyvinyl Chloride (PVC) free.
- Cradle to Cradle (C2C) Certified – C2C is a rigorous, third-party, global standard for products that are safely and sustainably designed, manufactured and utilized, promoting a circular economy.





WASTE

Monument Health utilizes chemicals in our facilities to treat and heal patients and to clean, disinfect and sterilize supplies and surfaces. It is crucial our methods of waste management consider our patients, caregivers, local communities, and the environment. Our partner for Environmental Services is Crothall, a recognized industry leader in quality housekeeping services in health care.

Monument Health is committed to reducing unnecessary waste and ensuring all waste is managed appropriately.

We continue to utilize Clean Waste Systems' Ozone medical waste treatment system (shredder/sterilizer) as our primary regulated medical waste processor. This system has helped us to reduce our GHG emissions and drastically reduces the volume of waste going to our local landfill. Using this waste treatment processing methodology, Monument Health has reduced its GHG emissions by approximately 15,000,000 kg of CO₂ per year. This has represented a 76% GHG emission reduction as compared to our previous processes of hauling our medical waste out of state for processing.

Monument Health participates in Stericycle's Sharps Management Service. We have avoided the production of an estimated 66,100 pounds, by the utilization of nearly 13,000 reusable containers.

Monument Health engages with several local specialized waste management processors with recycling outlets for metal, cardboard, electronics, and repurposing furniture and other equipment.

REPROCESSING

Monument Health partners with Stryker Sustainability Solutions to use Food and Drug Administration (FDA)-approved reprocessed single-use devices to reduce waste and save costs. Reprocessing extends the life of these products and reduces material consumption. Our efforts have resulted in 10,700 pounds of single-use devices being diverted from landfills.

MONUMENT HEALTH
HAS REDUCED ITS
GHG EMISSIONS
BY APPROXIMATELY
15,000,000 kg
OF CO₂
PER YEAR,
A 76%
REDUCTION.

REPROCESSING
HAS RESULTED IN
10,700
POUNDS
OF SINGLE-USE
DEVICES
BEING DIVERTED
FROM LANDFILLS.

Social sustainability is broad, encompassing labor laws, human rights, workplace safety, employee health and wellness and nuanced subjects like diversity and inclusion. It also includes actions considered outward facing, such as employee engagement, philanthropy and community engagement. At its core, successful social sustainability practices have a positive impact on both the business operations of a company and the communities they serve. Creating a formal mechanism for employees to volunteer can address both, resulting in a win-win for all involved.



COMMUNITY AND SOCIAL IMPACT

MONUMENT HEALTH HAS FIVE PRIORITIES, INCLUDING,
"BE A GREAT PLACE TO WORK," AND "IMPACT OUR COMMUNITIES."

WE CARRY OUT THESE OBJECTIVES IN SEVERAL WAYS, INCLUDING:

**VOLUNTEERISM
AND COMMUNITY
BENEFIT HOURS**

25,500 VOLUNTEER HOURS

were contributed by Monument Health caregivers in 2025

**COMMUNITY HEALTH
SCREENINGS**

**21,616 FREE COMMUNITY
HEALTH SCREENINGS**

were completed in 2025

**ORGANIZING
BLOOD DRIVES**

29 COMMUNITY BLOOD DRIVES

hosted by Monument Health in FY25 through partnerships with Vitalant and LifeServe

**REDUCING
WORKPLACE VIOLENCE**

The Workplace Violence Committee partnered with LiveWell to formalize

PULSE, A PEER SUPPORT PROGRAM

**FOCUSING ON
DIVERSITY AND
INCLUSION**

- Health Disparities Council formed to help eliminate health disparities
- Monument Health's Special Rodeo for children and adults with disabilities
- Monument Health hosts Monthly Cultural Diversity Education gatherings

**PROMOTING
EMPLOYEE HEALTH
AND WELL-BEING**

- Hinge Health
- No-cost gym use for caregivers at each Monument Health hospital
- Launched Canopy for counseling, coaching, financial and legal assistance and resources for life assistance
- LifeBalance Discount Program for discounts on vacations, travel, amusement, self-care, wellness and more
- 5 Mental Health First Aid Training/Certification classes held
- 100 LiveWell Champions recruited
- Attained American Heart Association Well-Being Works Better Gold Recognition

GOALS AND FUTURE STRATEGIES



RAPID CITY HOSPITAL BUILDING POWER OPTIMIZATION

Power and harmonics optimization will be a targeted upgrade to the hospital's electrical infrastructure delivering immediate cost savings, improved reliability, and long-term asset protection – without requiring major operational disruption. At its core, this solution will improve the quality of electricity entering and moving through the central utility plant. By stabilizing three-phase voltage, correcting power factor, and reducing harmonic distortion at the main distribution point, this will better ensure all equipment is operating on clean, efficient, and stable power.

By reducing harmonics we will reduce wasted energy that we are currently paying for but not using. Harmonic distortion and poor power factor have created inefficiencies driving up our electricity costs, increase demand charges, and could ultimately trigger penalties from our utility provider. Addressing these

issues will lead to measurable reductions in monthly energy spend and avoided penalties almost immediately.

Making these changes to our electrical utility will have the following benefits:

- Lowered energy use by reducing electrical losses
- Improved power factor to eliminate utility penalties
- Reduced peak demand and highest energy costs
- Prevented overheating and maintenance-related inefficiencies
- Reduced equipment trips and unexpected downtime
- Protected medical equipment and building systems
- Extended the life of electrical infrastructure
- Improved system resilience for continuous patient care

For healthcare facilities, where uptime, compliance and operational continuity are non-negotiable, power optimization delivers a clear ROI: lower operating costs today, fewer failures tomorrow and a more resilient electrical backbone for the future.

WATER OPTIMIZATION ACROSS ALL FACILITIES

Water optimization focuses on improving billing accuracy and reducing financial risk across our facility portfolio by ensuring we are only paying for the water we actually use—while proactively identifying issues that lead to costly losses. At the core of this strategy is a smart valve platform that enhances the accuracy of our existing water meters. Many facilities operate with meters that drift over time or fail to capture true flow conditions, leading to overbilling and unreliable utility data. By improving measurement accuracy at key points in the system, we plan to establish a trusted baseline for utility costs and financial reporting.

We hope to gain confidence that our water bills accuracy. In many cases, correcting meter inaccuracies will reduce utility costs immediately by eliminating overcharges that have gone unnoticed.

The following are benefits we hope to gain through our water optimization strategies:

- Improved meter accuracy to prevent utility overpayments
- Established a baseline for utility audits and verification
- Enabled early leak detection through continuous flow monitoring
- Reduced water and sewer costs from undetected losses
- Prevented costly property damage through early issue identification

This is both cost control and risk mitigation solution aimed at the following:

- Prevented financial losses from inaccurate metering
- Added continuous monitoring for early leak detection
- Protected facilities from damage, downtime and repairs
- Improved budgeting and financial planning accuracy
- Scaled utility management across the portfolio

For healthcare systems, water optimization delivers a clear ROI: immediate cost correction through improved billing accuracy, combined with long-term savings and risk reduction through proactive leak detection.

IMPLEMENT SYSTEM WIDE TRACKING PROGRAMS

- Maintain Energy Star profiles maintained for all system hospitals to track progress.
- Energy Print used by Plant Operations team to monitor changes in utility consumption year over year.

SOURCE SUSTAINABLE EQUIPMENT AND SUPPLIES

- When determining supplier and product selection, consider quality as well as environmental impact.
- Look upstream by studying incoming material and then reduce both inputs and outputs together to achieve greater reductions in total waste cost.

ENERGY UPDATES

- Update LED lighting as repaired and replaced.
- Performing steam trap assessments to reduce carbon and energy consumption within the building for HVAC and Sterilization.
- Plant Operations has assessed and rebuilt approximately 20% of the steam traps at the Rapid City Hospital. The Operating Room humidifier steam traps are scheduled for rebuild in the spring of 2026.
- Reprogram the Rapid City hospital's Central Utility Plant operating sequences and air handling units to utilize heating and cooling more efficiently.
- The chiller plant servicing the Rapid City Hospital has been re-programmed for cooling optimization and is currently performing at its highest efficiency since the installation of the new chillers in 2019. The system is continually monitored, and control adjustments are made as needed to help maximize efficiency, as well as increase comfort.
- Clean heat transfer coils from Air Handling Units, saving 20% in energy costs from airside energy.



**REDUCE OUR
CARBON
FOOTPRINT**

BY YEAR 2035 WE WILL:
Reduce greenhouse
gas emissions by 50%

BY YEAR 2050 WE WILL:
Reach net zero
emissions

IDENTIFIED WASTE STREAMS AND CURRENT PERFORMANCE

WASTE STREAM	ESTIMATED ANNUAL USAGE/SAVINGS - 2023	ESTIMATED ANNUAL USAGE/SAVINGS - 2024	ESTIMATED ANNUAL USAGE/SAVINGS - 2025
Water	32,036,250 gallons	35,857,500 gallons	32,655,000 gallons
Sharps	Stericycle's Sharps Management Service avoided the production of an estimated 100,610 pounds, through the utilization of nearly 20,912 reusable containers.	**Stericycle's Sharps Management Service avoided the production of an estimated 47,842 pounds of greenhouse emissions, through the utilization of nearly 9,101 reusable containers.	Stericycle's Sharps Management Service avoided the production of an annual estimated 76,877 pounds of greenhouse gases, through the utilization of nearly 15,865 reusable containers.
Regulated Medical Waste	2,540,000 pounds	2,554,000 pounds	2,632,720 pounds
Recycled Cardboard	312,000 lbs.	***624,000 lbs.	189,980 pounds
Medical Equipment	Green Wizard - Picked up electronics/IT/metal for recycling. Average 1 pallet per week @ 350 lbs. per pallet.	- Bridges of Hope, Inc - 7,200 lbs. of donated medical supplies and medications were sent to Liberia, Africa - Green Wizard- Picked up electronics/ IT/ metal for recycling. Average 1.5 - 2 pallets per week at 450 lbs - Matter 360 - 39 patient hospital beds were donated and repurposed in Africa	Green Wizard - 5,093 lbs alkaline batteries 7,200 lbs lead acid UPS backup batteries 1,408 lbs biomedical and laptop lithium batteries
Hazardous Air Pollutants	8.9 tons (Rapid City Hospital)	8.8 tons (Rapid City Hospital)	9.26 tons (Rapid City Hospital)
Electricity (Black Hills Energy)	45,808,000 Kilowatt Hours	45,964,000 Kilowatt Hours	47,599,000 Kilowatt Hours
Natural Gas (Rainbow Gas)	System Usage 2023 MMBtu= 168,126	System Usage 2024 MMBtu= 171,534	System Usage 2025 MMBtu = 170,727
Transportation	- Total Fleet Vehicles - 124 - Fuel Usage - 91,506 gallons - CO2 Emissions - 928.8 tons - Distance Driven - 1,587,197 miles	- Total Fleet Vehicles - 123 - Fuel Usage - 98,313 gallons - CO2 Emissions - 737.1 tons - Distance Driven - 1,601,679 miles	- Total Fleet Vehicles - 120 - Electric or Hybrid Vehicles - 0 - Fuel Usage - 107,348 gallons - CO2 Emissions - 946 tons - Distance Driven - 1,714,623 miles

**Stericycle - not all data reflected due to a temporary change in vendor in 2024

***Recycled Cardboard - previous years data were estimated. Actual data collection started 2024.

WASTE STREAM	ESTIMATED ANNUAL USAGE/SAVINGS - 2023	ESTIMATED ANNUAL USAGE/SAVINGS - 2024	ESTIMATED ANNUAL USAGE/SAVINGS - 2025
Pharmaceutical & Hazardous Waste	• Methanol/ Ethanol solution - 3,974 lbs • Methanol, acetonitrile - 509 lbs • Arsenic Trioxide - 14 lbs • Corrosive Liquid, acidic - 6 lbs • Oxidizing Solid - 5 lbs • Aerosols (as inhalers) 110 lbs • RCRA Pharmaceutical Waste - 35,236 lbs	• Methanol/ ethanol solution - 2,334 lbs • Methanol, acetonitrile - 344 lbs • Arsenic Trioxide - 0 • Corrosive Liquid, acidic- 0 • Oxidizing Solid - 0 • Aerosols (as inhalers) - 114 lbs • Dual Waste (Pharmaceutical with Biohazard Waste) - 963 lbs • RCRA Pharmaceutical Waste - 36,873 lbs	• Silver Nitrate Applicators - 25 lbs • Labpack Basic & Basic Compatibles for Incineration - 33 lbs • Labpack Acid & Acid Compatibles for Incineration - 35 lbs • Arsenic Trioxide - 43 lbs • Labpack Non-Hazardous for Incineration - 74 lbs • IEP Waste Inhalers & Healthcare Facilities Flammable Aerosols - 131 lbs • Labpack Oxidizers for Incineration - 192 lbs • Mass Spec Flammable Waste - 537 lbs • IPA Solution - 547 lbs • Dual Wast (RCRA Pharm/Infectious Waste, incl Sharps) - 1,598 lbs • Flammable Staining Waste - 2,069 lbs • Flammable Staining Waste Loose Packed - 2,363 lbs • RCRA and non RCRA Pharmaceuticals - 33,074 lbs • Waste Total - 40,721 lbs
Medical Devices & Supplies	Partnership with Stryker, 13,382 pounds of waste was diverted from the landfill.	Partnership with Stryker, 12,223 pounds of waste was diverted from the landfill.	Partnership with Stryker, 12,859 pounds of waste was diverted from the landfill.
Food	• 1% (195 lbs) of food waste was kept out of the landfill • Feed hungry people- 70 lbs • Feed animals- 38 lbs • Composting - 87 lbs	• 1% (332 lbs) of food waste was kept out of the landfill • Feed hungry people - 180 lb • Feed animals - 8.5 lbs • Composting - 143.8 lbs	• 8% (487 lbs) of food waste was kept out of the landfill • Feed hungry people - 138 lb • Feed animals - 57 lbs • Composting - 292 lbs
Light Bulbs	346 pounds	693 pounds	
Trash, Old Corrugated Cardboard (OCC)	Rapid City Market • 2,306.88 Total tons • 57.58 Tons OCC "cardboard" • 0.65 Tons Comingle REC • 1,032.32 Tons from Ozone Compactor	Rapid City Market • 2,329.27 Total tons • 94.99 Tons OCC "cardboard" • 0.59 Tons Comingle REC • 1,277.12 Tons from Ozone Compactor	Rapid City Market • 2,385.54 Total tons • 94.99 Tons OCC "cardboard" • 0.56 Tons Comingle REC • 1,069.18 Tons from Ozone Compactor
Systemwide Hospitals, Clinics and Business Occupancy Owned & Leased	2,574,048 square feet	2,576,350 square feet	2,609,808 square feet

*Former shell space was infilled in various areas each year.

MONUMENT HEALTH ENTERS THE ICE AGE

In 2025 Monument Health installed ice storage systems as part of the Spearfish Hospital Addition and the Mall Drive Emergency Department projects. We did this to help reduce energy usage to cool these facilities moving forward.

As global energy transformation accelerates and carbon reduction goals become a priority, ice storage chiller systems are moving from niche applications to mainstream adoption. Behind their growing popularity lies a powerful combination of energy savings, peak-demand management, policy incentives, and long-term cost reduction. For those seeking sustainable and cost-effective cooling solutions, ice storage technology offers a unique opportunity to improve operational efficiency while supporting environmental goals.





The core advantage of an ice storage chiller system lies in its ability to shift energy consumption from peak hours to off-peak hours. The system produces ice during nighttime periods when electricity rates are lower. The stored cooling energy is then released during daytime peak-demand periods, reducing or even eliminating the need for the chiller to operate when electricity costs are highest.

This strategy helps facilities:

- Lower electricity expenses
- Reduce peak demand charges
- Improve grid stability
- Optimize energy utilization

In many regions, significant differences between peak and off-peak electricity rates create substantial financial benefits.

How Do Government Policies Support Ice Storage Technology?

The growing emphasis on energy efficiency and carbon reduction has led governments worldwide to encourage thermal energy storage technologies.

Most regions in the country now offer:

- Energy-saving incentives
- Utility rebates
- Demand-response programs
- Preferential electricity pricing
- Green building certifications

These policy benefits can significantly improve project economics and shorten the return-on-investment period. For many commercial and industrial projects, the payback period for an ice storage system can be reduced from 8–10 years to as little as 3–5 years, this was the case for both the Spearfish and Emergency Department projects.

One common concern is that ice storage systems typically require a higher upfront investment than conventional cooling systems. While initial project costs may be 20%–30% higher, a lifecycle cost analysis often tells a different story.

Modern ice storage solutions can:

- Reduce installed chiller capacity requirements by 30%–50%
- Lower electrical infrastructure investment
- Reduce peak power demand charges
- Improve overall system reliability
- Decrease maintenance expenses

Because the system operates more efficiently and places less stress on cooling equipment, long-term operating and maintenance costs are significantly reduced. As a result, total ownership costs are often lower than those of traditional cooling systems over the life of the project.

**ICE STORAGE SYSTEMS CAN
REDUCE AIR-CONDITIONING
OPERATING COSTS BY**

40%–60%

