
Hospital Climate Solutions

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Hospitals and Health Systems in the United States...

- 42 pounds waste per patient day*
- 11,725 tons per day*
- 10 percent of the nation's energy
- World's seventh-largest producer of carbon dioxide
- Major contributor to air pollution



Engaged Leadership

Support an organization-wide sustainability initiative

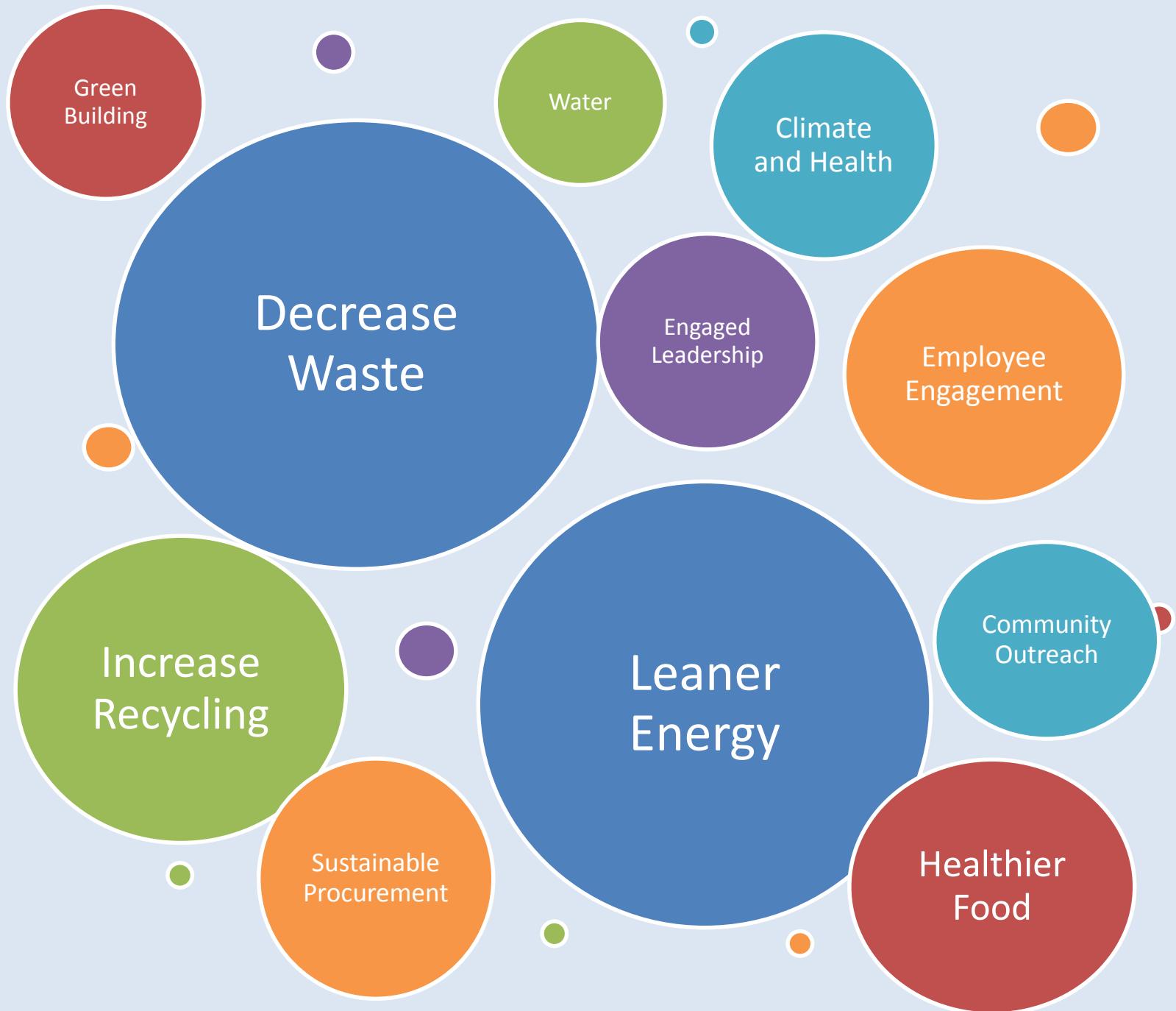


Healthier Hospitals

Executive Commitment Statement

- Comprehensive environmental sustainability program
- Sustainable, measurable outcomes
- Integrating environmental sustainability into our core business strategies
- Tracking and sharing results





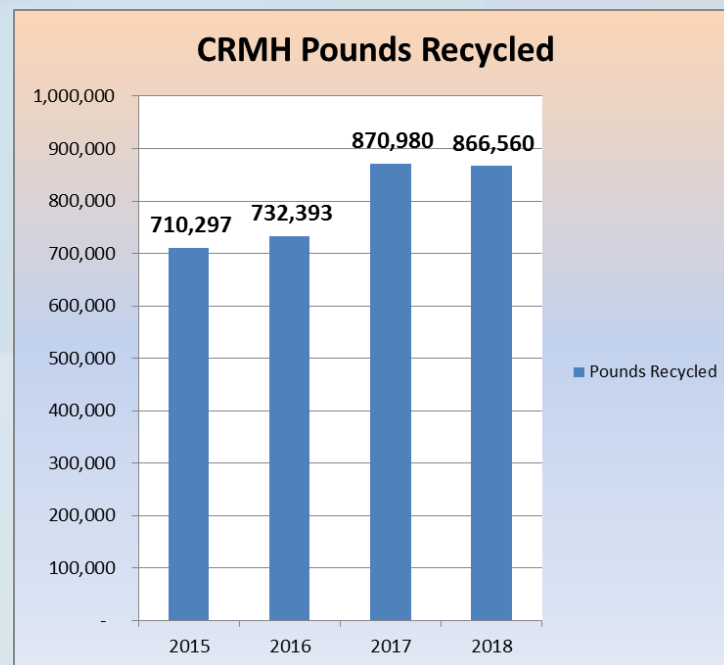
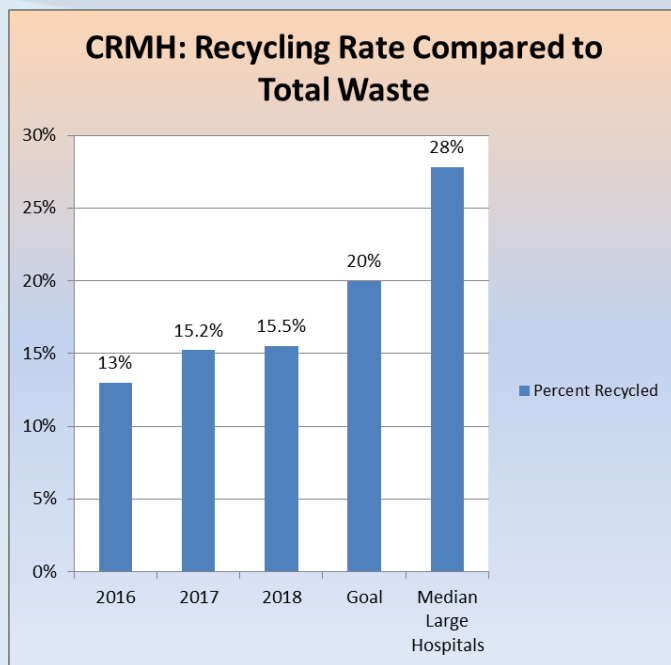
Less Waste

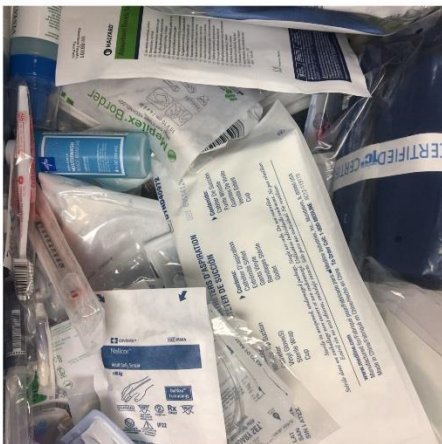
Reduce waste and increase recycling



Less Waste Goals

Achieve a 20 percent recycling rate compared to total waste





Mission Donation Program

- 97,000 pounds (Over 48 Tons!) medical supplies and equipment donated since 2016



“Reduction and reuse are the most effective ways you can save natural resources, protect the environment and save money.”

-United States Environmental Protection Agency



Evaluating

- Construction and Demolition Recycling and Diversion
- Soft plastics recycling



Interventional Radiology: 2 Cases

Healthier Food

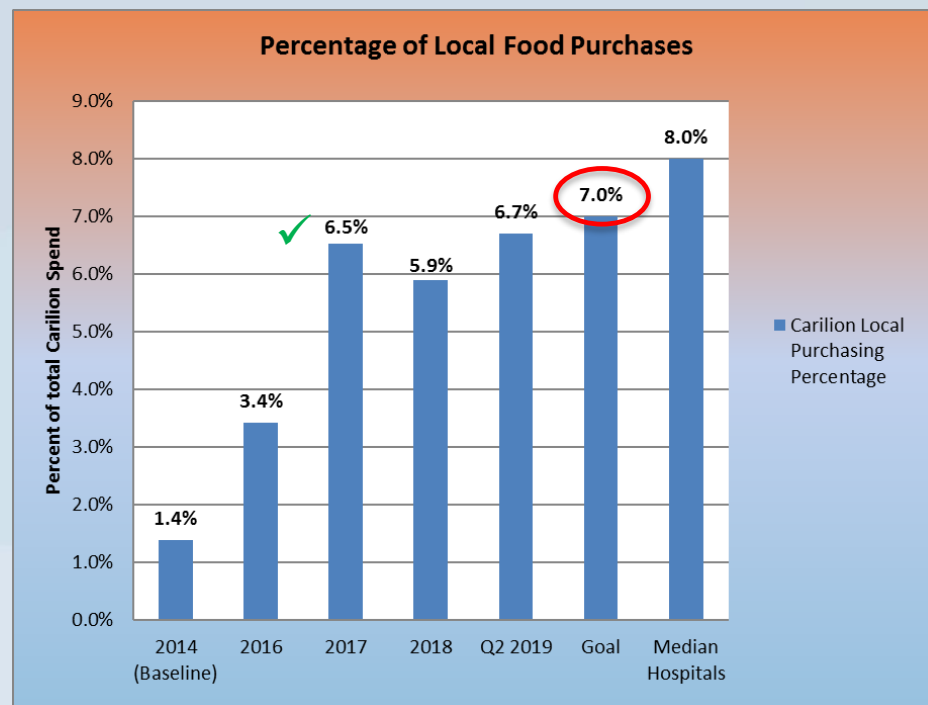
Offer healthier food for staff, patients, and visitors



Healthier Foods

Goal

- Increase local: 7% over baseline year
 - Located within a 250-mile radius of the facility
 - 2014 (Baseline): \$58,000
 - 2016: \$135,000
 - 2017: \$322,000
 - 2018: \$305,462



Healthier Foods

Goal

- Reduce/eliminate use of Styrofoam
- Eco-friendly/Compostable Serviceware purchased by D&N
 - 2016: ~1%
 - 2017: 33.8%
 - 2018: 41%



Food Waste

American consumers, businesses, and farms spend **\$218 billion a year**, or 1.3 percent of the gross domestic product (GDP), growing, processing, transporting, and disposing of food that is **never eaten**.*

It is estimated that **10 to 15 percent** of an average hospital's waste is comprised of food waste.**



Source:

<https://www.refed.com/?sort=economic-value-per-ton> **

<https://practicegreenhealth.org/topics/waste/food-waste-0> **



Food Waste

- Salads disposed:
 - Yearly projection: 42,912
 - Pounds of salads: 8,153
- Milk cartons disposed:
 - Yearly projection: 35,040 cartons
 - Pounds of full cartons: 18,571



100
salads



250
cartons

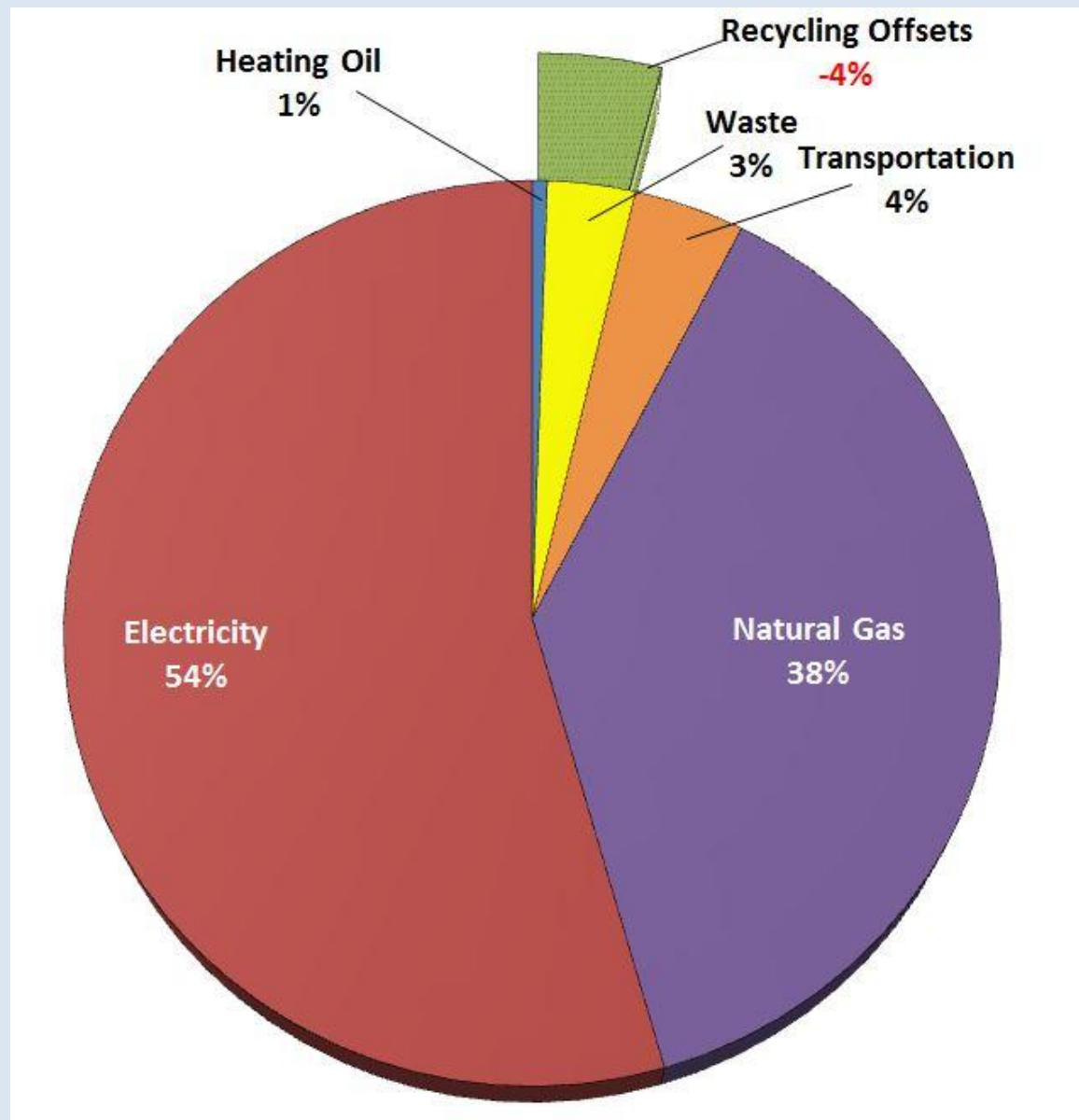




Leaner Energy

Reduce energy use and greenhouse gas emissions





**Carilion Roanoke Memorial Hospital (2015):
Net 45,916 tons of CO2 annual emissions**

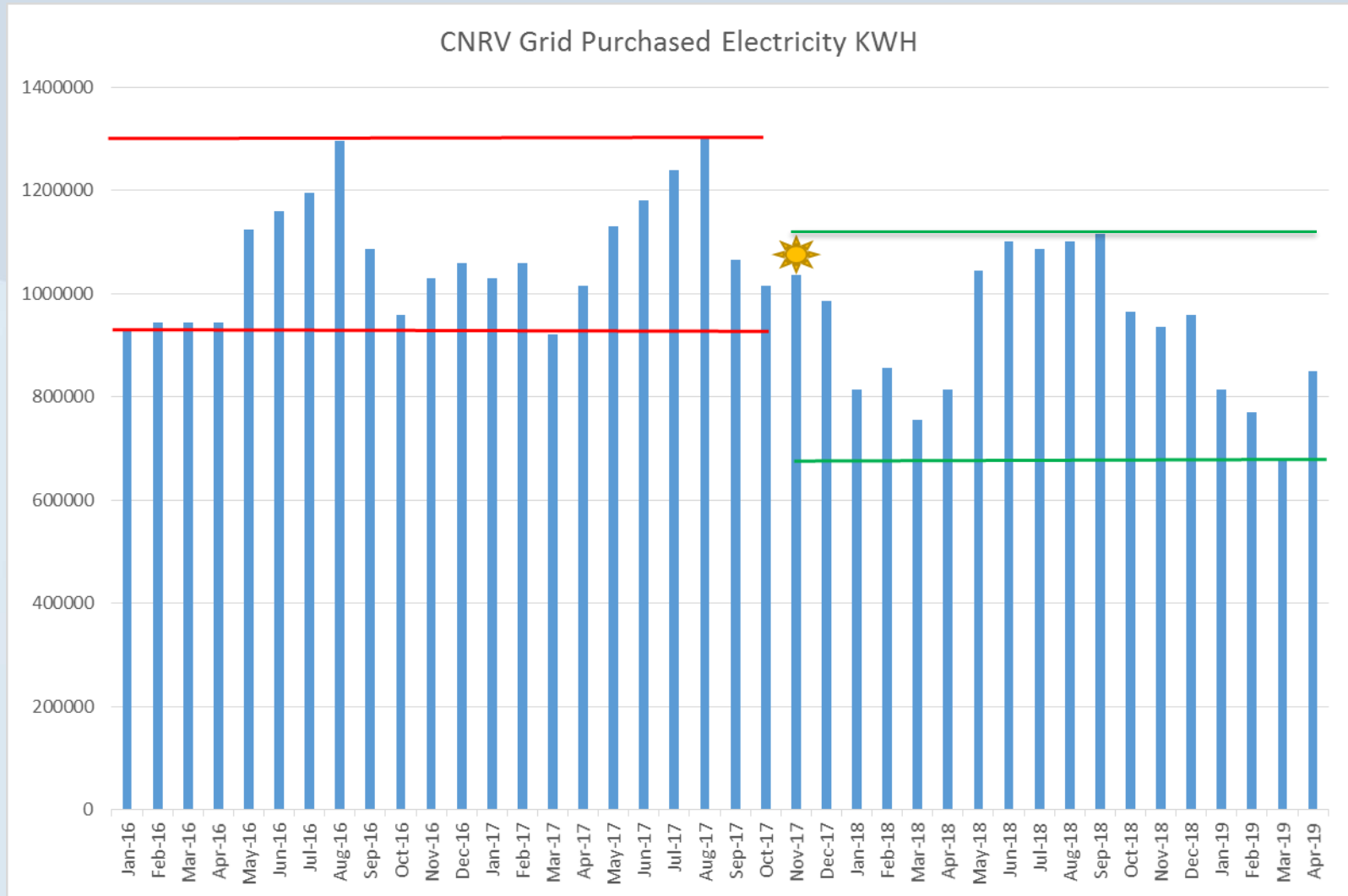


CNRV Solar Tracking Field

- 4,000 solar panels
- 5 Acres
- Generate 17% annual energy needs
- Offset 3.2 million pounds of CO₂ annually



Carilion New River Valley Medical Center



Leaner Energy

LED Upgrades

- CRMH
 - ~3.84 million kWh
- CNRV
 - ~230,000 kWh
- CGCH
- CASB
 - ~500,000 kWh
- Garages
 - 6 Riverside
 - Crystal Spring
- Laundry
- Exterior:
 - Cancer Center
- Next Interiors:
 - CFM Radford
 - CFM Christiansburg
 - HR 3rd Street
 - CFM Martinsville
 - 3 Riverside
 - 1 Riverside
 - CFM Martinsville
 - Crystal Spring
 - ION
 - HR 3rd Street
 - Warehouse
 - Brambleton CFM

Solar Feasibility

- New Rehab
- CRMH
- Franklin Road Warehouse
- Riverside 1
- CRCH
- Highland MOB
- Crystal Springs Medical Building

Occupancy Sensors

- CRMH (50 locations)



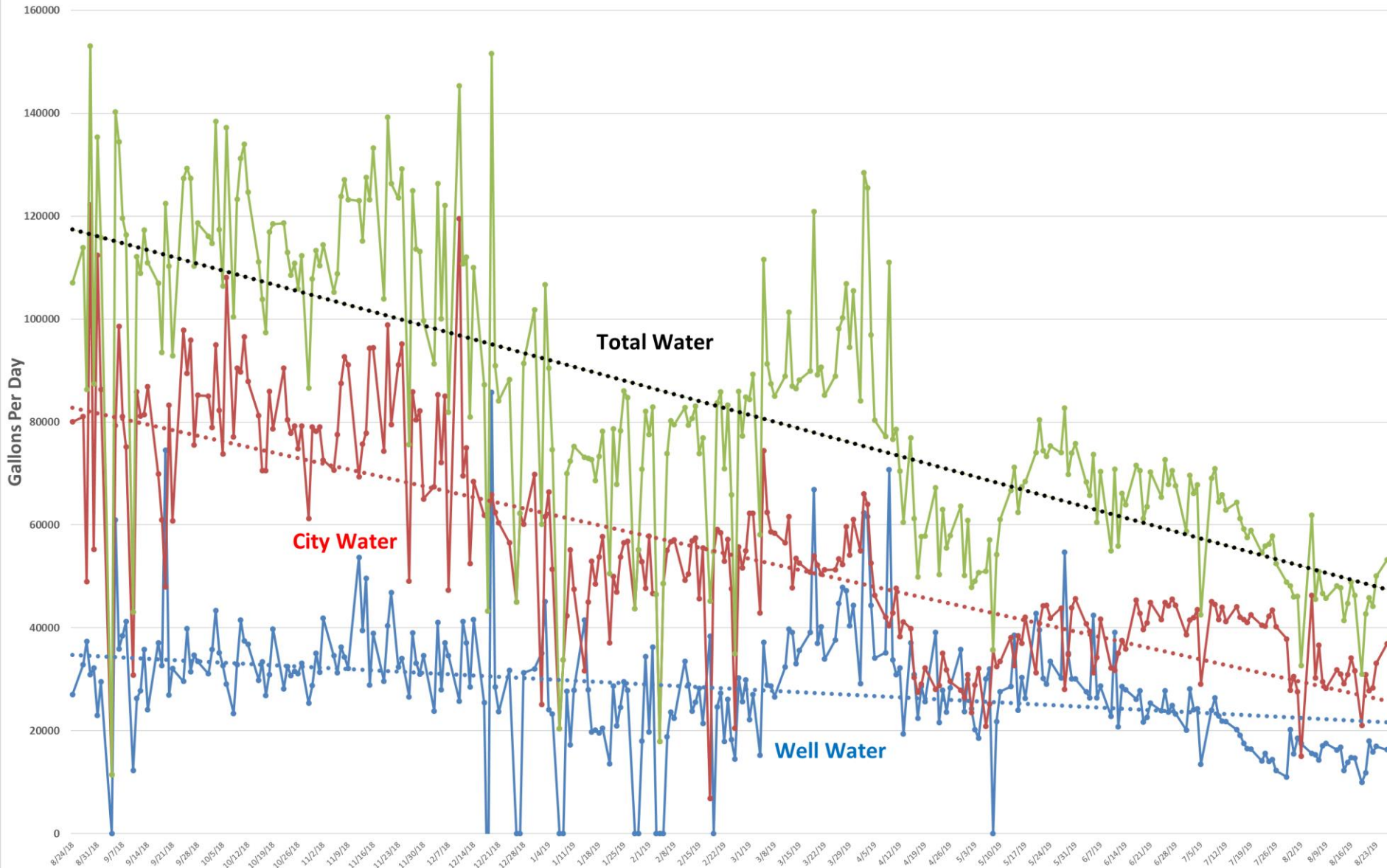
Water

Carilion Laundry Services

- New Tunnel Washer
- Decreases water utilization by **35,000 gallons per day**
- Increased press capacity decreases drying times, reducing electricity and natural gas consumption




One Year Laundry Water Usage Trend



Employee Engagement





Carilion Clinic and
VTC SOM invite you to
an educational event for
physicians and nurses

Health in a Changing Climate

Understanding the Impacts on Virginians

WHEN:

8:30 a.m. - 2:15 p.m.

Saturday, Oct. 5, 2019

Keynote speaker is Parham Jaber, M.D., M.P.H., chief deputy commissioner at the Virginia Department of Health

WHERE:

Carilion Roanoke Memorial Hospital

Sixth Floor Auditorium

1906 Belview Ave., SE

Roanoke, VA 24014

TOPICS INCLUDE:

- Causes and health effects of a changing climate
- Health practitioners' response and solutions to reduce health risks
- Changes in disease vectors and allergens
- Impacts on vulnerable populations
- Climate science research updates from Virginia Tech and the U.S. Environmental Protection Agency
- Clinical case presentations by Carilion physicians

REGISTRATION INFORMATION:

To register, visit: [CarilionClinic.org/conferences](https://www.carilionclinic.org/conferences)

Deadline to register is Friday, Sept. 27. No refunds issued after Sept. 27, 2019

Carilion Clinic attendees: Registration fee is covered by Carilion Clinic

External attendees: The fee is \$15. Student attendees: The fee is \$10.

Lunch will be provided

Employee Engagement

- Supply waste reduction
- Linen Efficiency
- Pharmaceutical waste sorting and proper disposal
- Regulated medical waste sorting and proper disposal
- Basic recycling
- Battery recycling
- SCD Sleeve Reprocessing
- Pulse oximeter reprocessing
- Mission donations
- Patient education: Climate and Health
- Energy Reduction/Behavior Change
- Print Reduction Campaign



Your Role

1. Sustainability Champion
(sewohlford@carilionclinic.org)
2. Clinician and Nursing Engagement
3. Bridging the communication gap
4. Empower



Questions?

**EACH ONE OF US CAN
MAKE A DIFFERENCE.
TOGETHER WE MAKE
CHANGE.**

