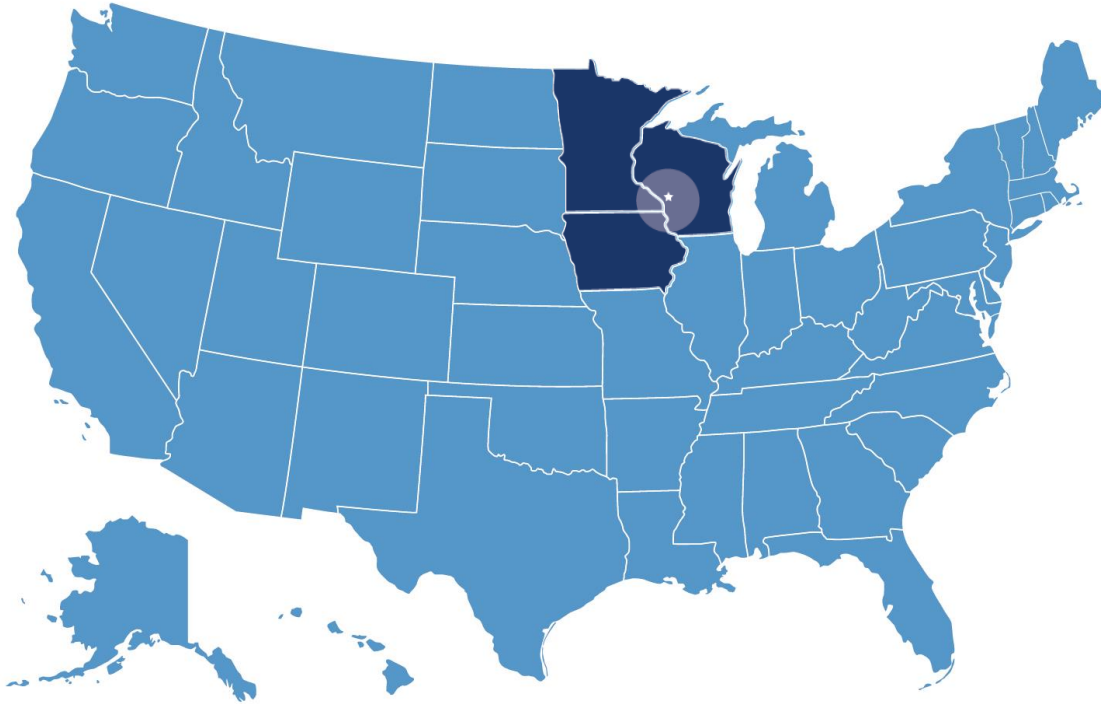


# Protecting the Health and Wellbeing of Communities in a Changing World

Jeff Thompson, MD

**GUNDERSEN**  
HEALTH SYSTEM®

# About us...



## Integrated Delivery System

- 7,600 Total Employees
- 795 providers employed
- 61 clinics / 6 hospitals

- Western Campus of the University of Wisconsin Medical School
- Residency, Fellowship and Medical Education Programs

# GUNDERSEN HEALTH SYSTEM® STRATEGIC PLAN

**Our Purpose is to bring health and well-being to our patients and communities.**

**Mission:** We will distinguish ourselves through excellence in patient care, education, research and improved health in the communities we serve.

**Vision:** We will be a Health System of excellence, nationally recognized for improving the health and well-being of our patients, families, and their communities.

**Commitment:** We will deliver high quality care because lives depend on it, service as though the patient were a loved one, and relentless improvement because our future depends on it.

**Values:** **Integrity** – Perform with honesty, responsibility and transparency.

**Excellence** – Measure and achieve excellence in all aspects of delivering healthcare.

**Respect** – Treat patients, families, and coworkers with dignity.

**Innovation** – Embrace change and contribute new ideas.

**Compassion** – Provide compassionate care to patients and families.

## Superior Quality and Safety

Demonstrate superior Quality & Safety through the eyes of the patients & caregivers

## Outstanding Patient Experience

Create an outstanding Experience for patients and families

## Great Place

Create a Culture that embraces a passion for caring and a spirit of improvement

## Affordability

Make our care more Affordable to our patients, employers, and community

## Growth

Achieve Growth that supports our mission and other key strategies

# Why Health Care Providers Should Care

- Pollutants from fossil fuels and disposed waste cause?:
  - Cancer, liver disease, kidney disease, reproductive issues
  - Cardiovascular deaths and stroke<sup>1</sup>, respiratory disease
- According to the U.S. Department of Energy, hospitals are 2.5 times more energy intensive than other commercial buildings<sup>2</sup>
- Pharmaceuticals and equipment have even bigger carbon footprint
- Energy costs will eventually escalate
- Reducing waste results in an improved bottom line

<sup>1</sup>Source: American Heart Association Scientific Statement: DALLAS, May 10, 2010

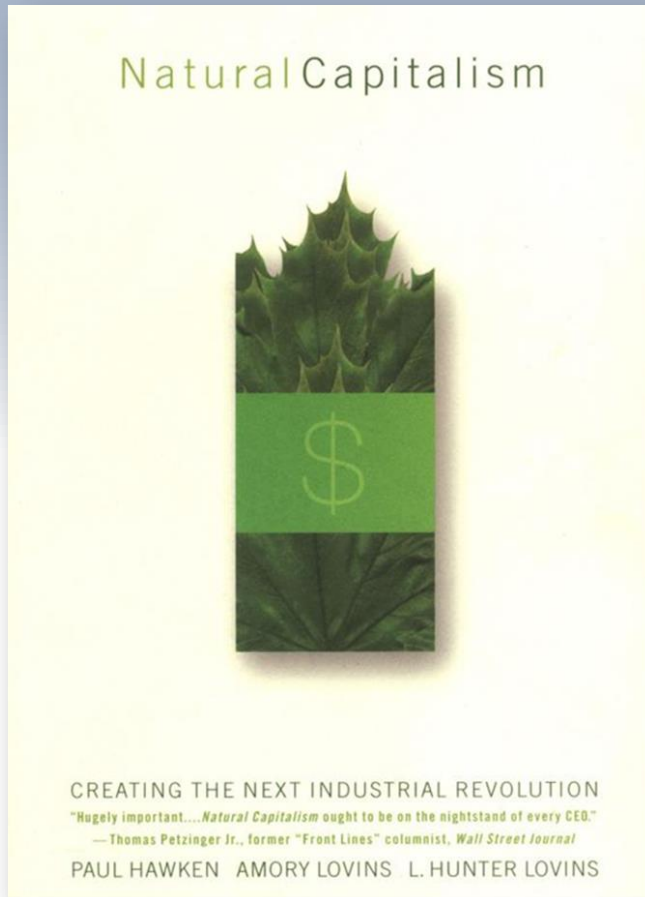
<sup>2</sup>Source: <http://www.energy.gov/news2009/7363.htm>

# Our Journey

The why:

- Decrease pollution
- Decrease operating costs
- Improve our local economy, instead of coal from Wyoming (for electricity) and natural gas from Texas (for heat)
- Defines us as an organization, a strong corporate citizen, a servant organization

# Inspiration



- Life cycle cost a much different calculation
- There is no “away”
- People make money being environmentally sound

# Why would a strong board allow this plan?

- Consistent with mission
- Best use of portion of savings
- Good ROI (7.7 years)
- Safer than stock or bond market (remember 2008?)
- Local investment (great PR)
- Timing (grants, partners)
- Early successes (conservation projects)

# *GHS Fossil Fuel Emissions Improvement*

## **Emissions<sup>(1,2,3,4,5)</sup> (lbs.)**

**2008**

**Carbon Dioxide**<sup>(1,3,4)</sup>

**72,386,372**

**Particulate Matter**<sup>(1,5)</sup>

**434,928**

**Mercury**<sup>(1,2)</sup>

**2.39**

**Note:** The 2016 CO<sub>2</sub> value is the net sum after adjusting facility utility energy consumption with clean energy produced by GHS renewable energy projects.

### **Sources:**

<sup>1</sup>US EPA AP-42

<sup>2</sup>Practice Greenhealth's Energy Impact Calculator Data Sources: <http://www.eichealth.org/calctest2.asp#>

<sup>3</sup>U.S. EPA eGRID Version 1.0 Year 2007 Summary Tables: <http://www.epa.gov/egrid>

<sup>4</sup>U.S. EPA eGRID 10th edition Version 1.0 Year 2012 Summary Tables: <http://www.epa.gov/egrid>

<sup>5</sup>Air pollution from electricity-generating large combustion plants (pdf), Copenhagen: European Environment Agency (EEA), 2008, ISBN 978-92-9167-355-1

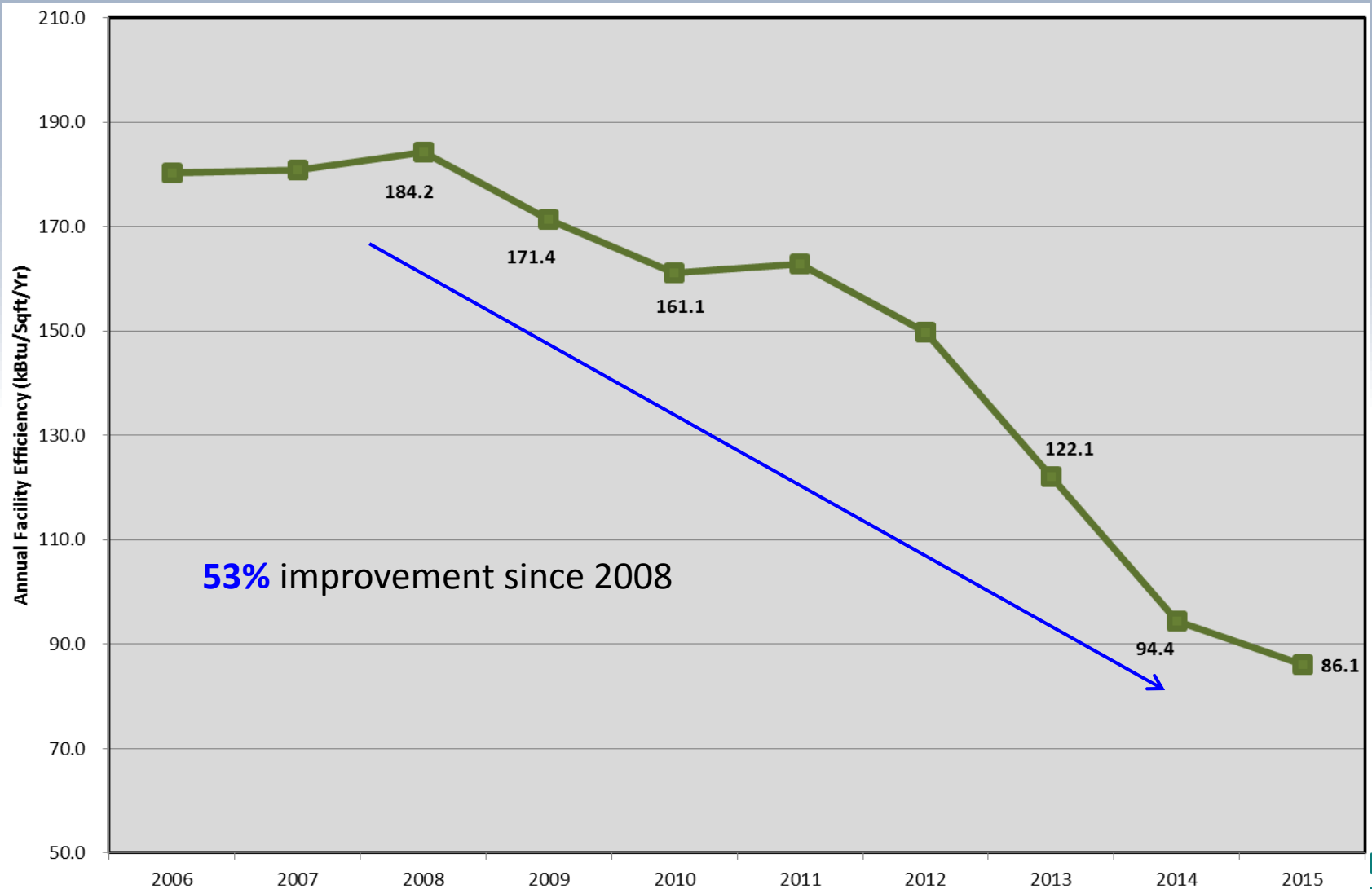
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# *GHS Energy Efficiency*

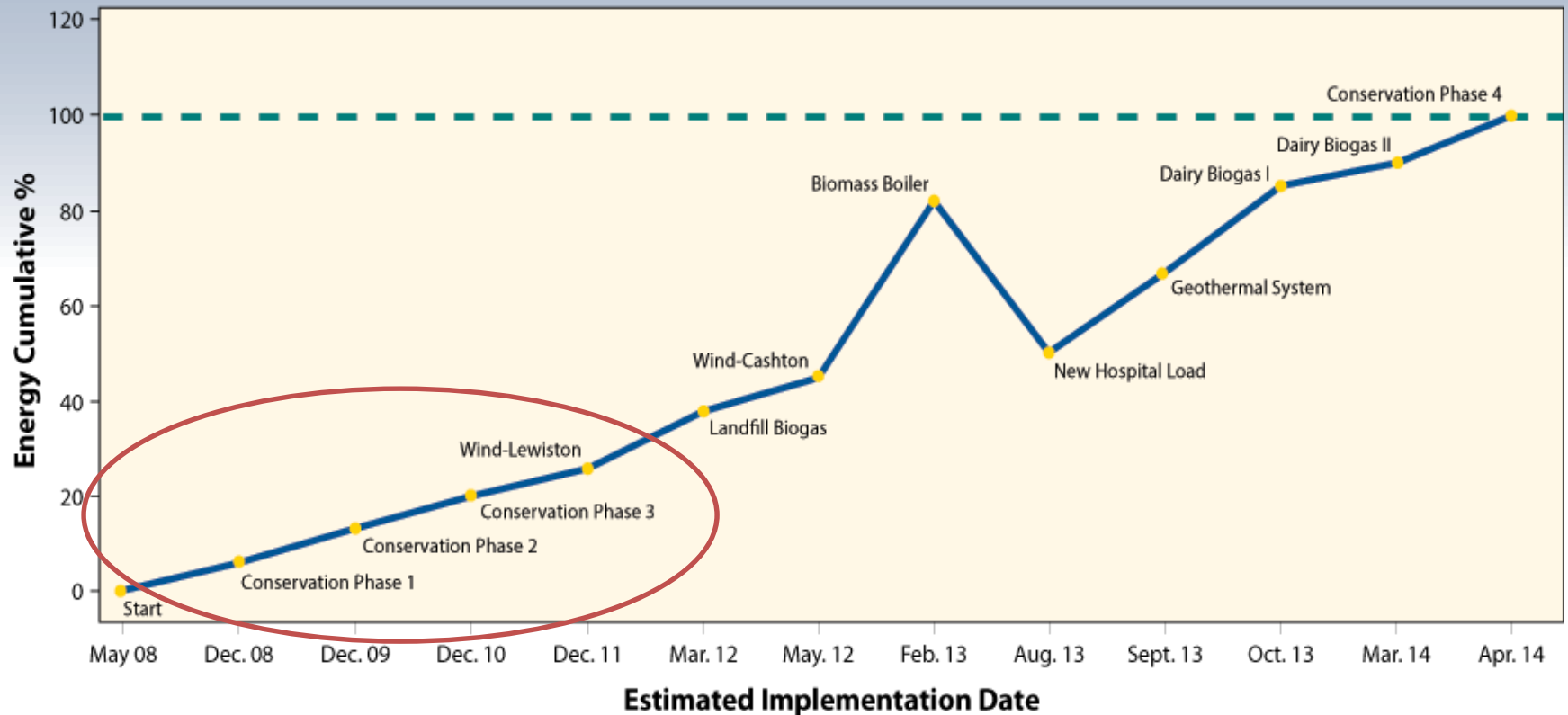
## *Aggregated Facilities EUI - Utility Purchased Energy*

*(kBtu per square foot per year)*



# 1<sup>st</sup> U.S. Health System Heated, Powered & Cooled by Local Renewable Energy

## Gundersen's Road to Energy Independence Percent Fossil Fuel Energy Use Offset



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# Where is the Financial Payoff

## Financial Successes

- Conservation
- +/- Wind Farms
- Landfill Biogas
- Biomass Boiler
- Geothermal Field
- Dairy Biogas
- Solar Hot Water (dialysis)

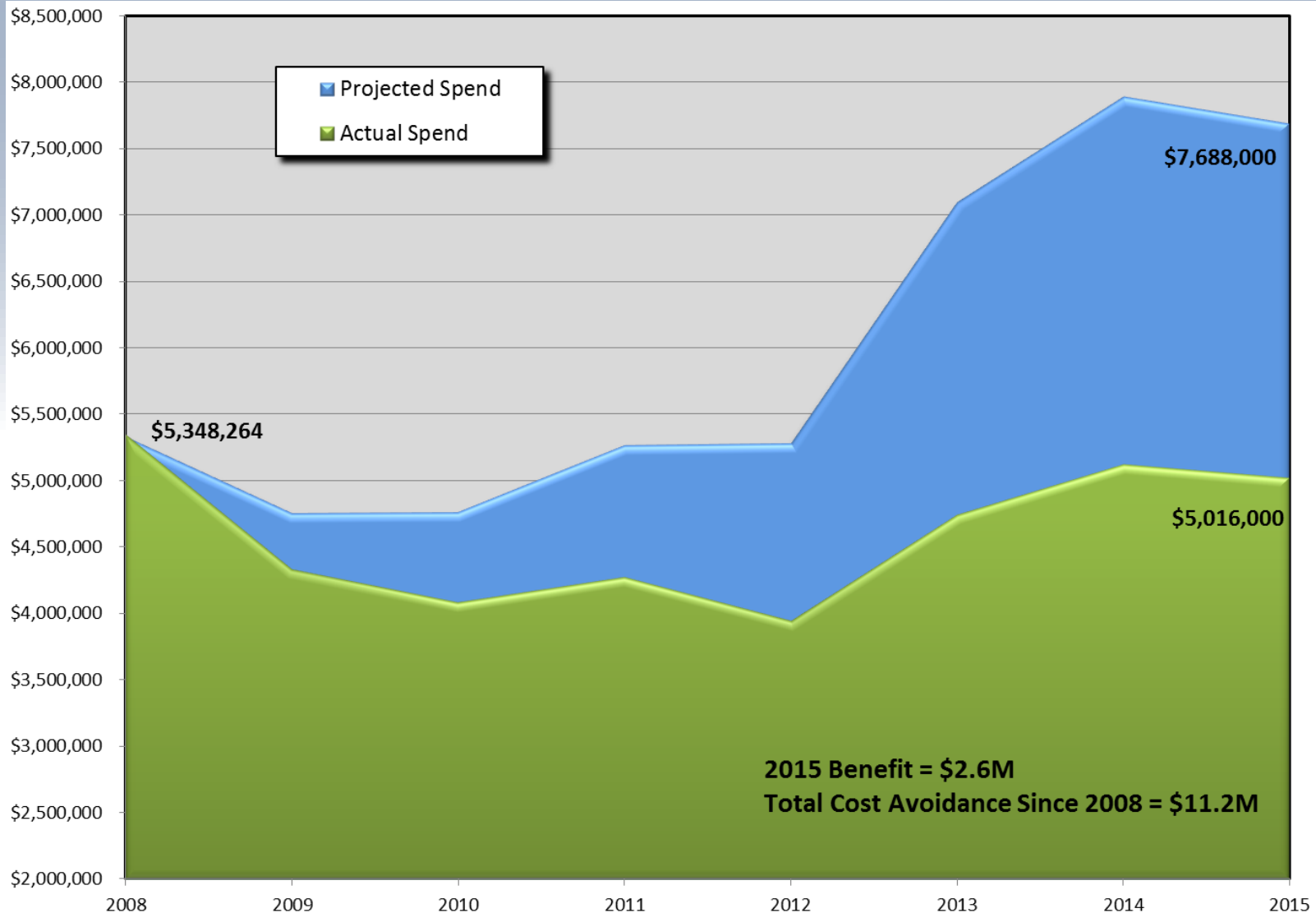
## Education / Opportunity

- Solar Hot Water Project (Daycare)
- Brewery Biogas
- Solar PV Panels (improving)

| Organizational Investment Portfolio →   |             |       |        |   | Return   |
|---|-------------|-------|--------|---|----------|
| Cash  | T-Bills     | Bonds | Stocks | → | 5.8%     |
|  |             |       |        |   |          |
| Energy →<br>Infrastructure<br>Investment  | 5% of total |       |        | → | 10 – 12% |

# GHS Energy Spend

*With and Without Efficiency Gains*



GHS energy expense has stayed below the 2008 spend despite adding 13

more facility space and a 25% electricity price increase during the same period

# WE ARE THE PROBLEM...BUT WE CAN CHANGE

## GHS Fossil Fuel Emissions Improvement

| <u>Emissions<sup>(1,2,3,4,5)</sup> (lbs.)</u> | <u>2008</u>       | <u>2016</u>      | <u>% Reduction</u> |
|---|-------------------|------------------|--------------------|
| <b>Carbon Dioxide<sup>(1,3,4)</sup></b>       | <b>72,386,372</b> | <b>1,626,831</b> | <b>(98%)</b>       |
| <b>Particulate Matter<sup>(1,5)</sup></b>     | <b>434,928</b>    | <b>11,172</b>    | <b>(97%)</b>       |
| <b>Mercury<sup>(1,2)</sup></b>                | <b>2.39</b>       | <b>0.16</b>      | <b>(94%)</b>       |

**2016 asthma attacks avoided:** **9.3<sup>(2)</sup>**

**Note:** The 2016 CO<sub>2</sub> value is the net sum after adjusting facility utility energy consumption with clean energy produced by GHS renewable energy projects.

### Sources:

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# Beyond the Health & Money

- Staff Pride
  - For being environmentally sound
  - For innovating ahead of the norm
  - For not settling for mediocrity

# Sustainability Program Impact

- Local Energy Purchase: Wind, Wood, Geothermal, Dairy Biogas and Landfill Gas
- Food: 80% Waste Reduction, Help start 5<sup>th</sup> Season Food Co-op (local bulk buying)
- Education: Grade Schools, University, Technical Schools, World Wide Visitors
- Cost Savings: Total will be \$3-4M/year
- Inspiration To: Community Partners, Families, Employees, Applicants, Competitors

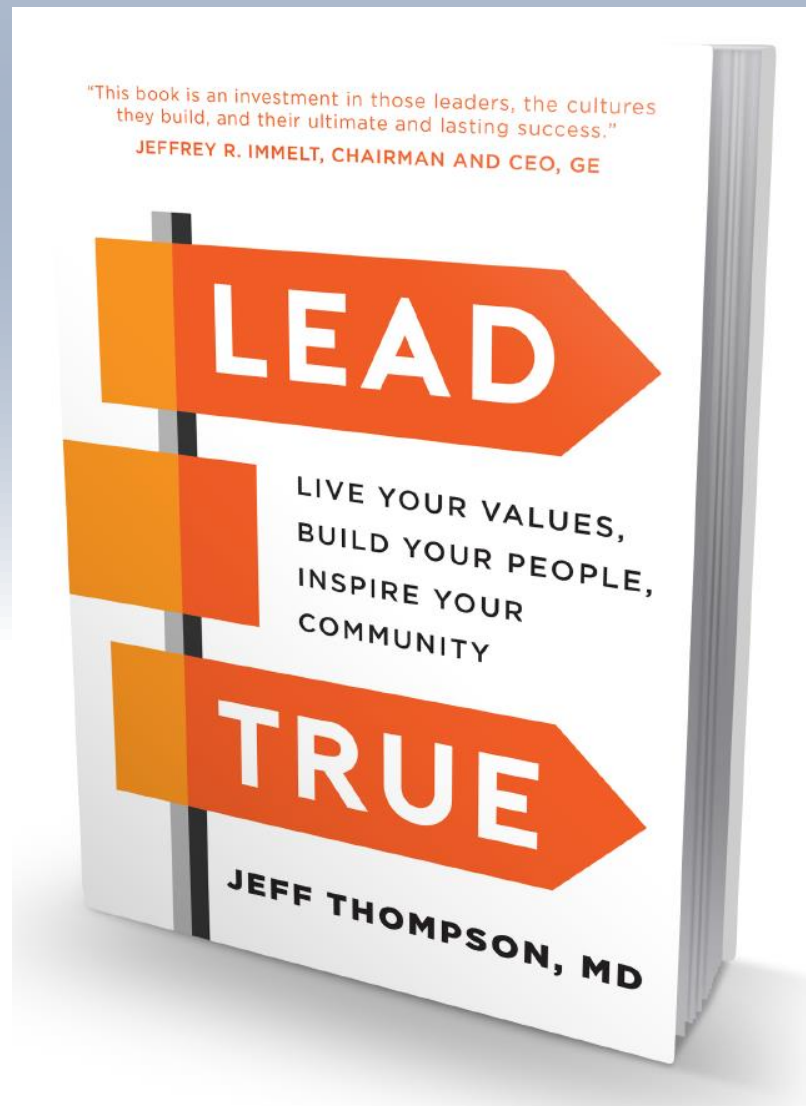


We did not set out to be the greenest health system.

We set out to make the air better for our patients to breathe, control our rising energy costs and help our local economy.

# The Choice...

- To Lead
- To Instigate
- To Participate
- To Vegetate



[gundersenhealth.org](http://gundersenhealth.org)  
[jeffthompsonmd.com](http://jeffthompsonmd.com)

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# Appendix

# Hazardous Pharmaceutical Waste Reduction

## Before



Disposal cost down  
93% (\$140,000)

# 17:1



## After

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# Facilities Replacement

New Behavioral Health Building  
65 kBtu/sqft/yr

Old Behavioral Health Building  
200 kBtu/sqft/yr



- Less medications
- Happier patients
- Happier staff

# Biomass Boiler Project

Renewable, Locally Sourced, Wood Chip Fuel

- Will produce the majority of heat needed
- Electricity production with steam turbine
- Local wood chips rather than piped in natural gas
- \$1M less in natural gas in 2014





# *Renewable Energy Sources Improve Our Local Economy*

## **Landfill Gas Project**



**2015 Biogas Payment to  
La Crosse County Tax Payers**

***\$215,024***

- ***Operation and maintenance technician jobs for wind and digester projects  
~\$500,000 per year***
- ***Additional regional benefits through purchases of locally manufactured  
energy efficiency equipment and construction jobs***
- ***Wisconsin imports ~\$15B\* in fossil fuels each year... every bit of local  
production keeps dollars in our region***

***\*Wisconsin State Energy Office***

## **Biomass Boiler Project**



**Est. 2015 Fuel Payments for  
Regional Wood Chip Suppliers**

***\$667,000***



