

# 6C - Saving Energy and Money While Improving Community Health

Presented @ 2018 Conference on Health, Environment and Energy  
Iqbal Mian, Member Engagement Manager @ Practice Greenhealth

# Objectives

- **Powerful Tools**

- Energy Impact Calculator, Greenhouse Gas Toolkit, PG Benchmark Reports

- **Powerful Stories**

- Geisinger Health, Gundersen Health, UW Health, & Ascension Health

- **Lasting Inspiration**

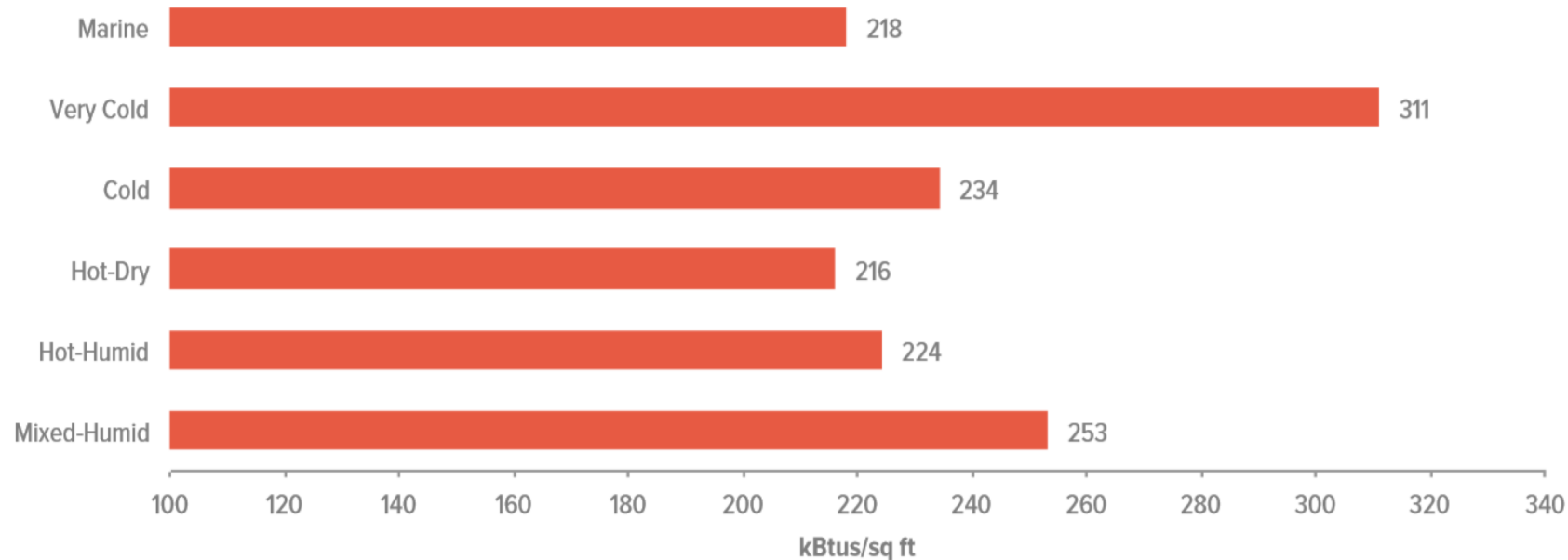
- Bring ideas to your colleagues and share best practices



**Figure 7.9: Energy Efficiency Planning and Strategy**



**Figure 7.8: Energy Use Intensity by Climate Zone**



Source: Practice Greenhealth 2016 & 2017 Data Tables (Benchmark Report)

# Common Greenhouse Gas Emission Sources in Health Care

CO<sub>2</sub>

CH<sub>4</sub>

N<sub>2</sub>O

HFCs

PFCs

NF<sub>3</sub>

SF<sub>6</sub>

## SCOPE 1

Onsite Energy



Fleet Vehicles



Waste Anesthetic Gas



Refrigerants



## SCOPE 2

Purchased Electricity



Purchased Steam



## SCOPE 3

Business Travel



Employee Commute



Waste Disposal



Medical Devices and Equipment



Pharmaceuticals



Meat Procurement



Other\*\*

## Examples of Practice Greenhealth member GHG reduction goals

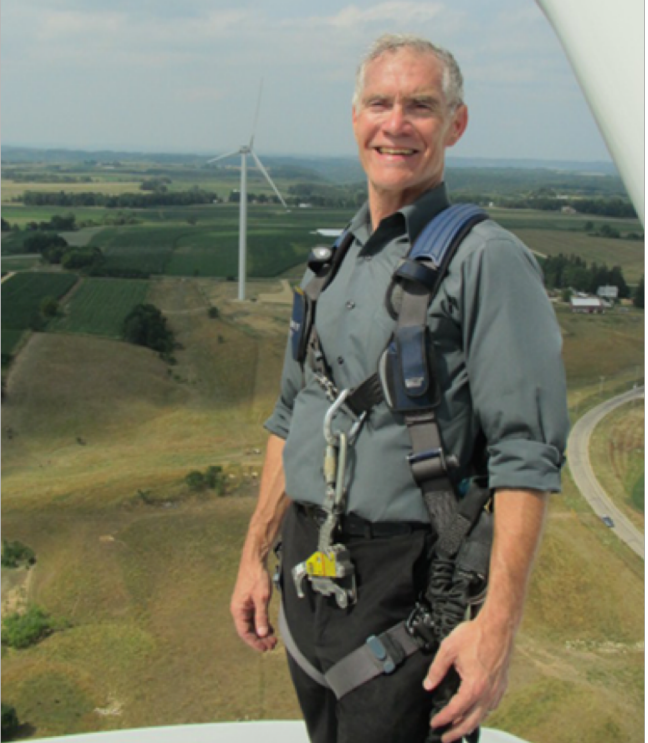
- Boston Medical Center: 25% by 2020 and 100% by 2050
- Cleveland Clinic: Carbon neutral by 2027
- Dartmouth Hitchcock: 25% reduction by 2020
- Dignity Health: 40% reduction by 2020
- Gundersen Health: Energy independence achieved in 2014
- Kaiser Permanente: Carbon net positive by 2025
- Memorial Sloan Kettering: 50% reduction by 2025
- Montefiore Health System: 50% reduction by 2025
- NYU Langone: 50% reduction by 2025
- Ohio State Wexner Medical Center: Carbon neutral by 2050
- Partners Healthcare: 25% by 2020 and 100% by 2050
- Providence St. Joseph Health: 30% reduction by 2025 and 100% by 2040
- Rochester Regional Health: 100% renewable electricity by 2025
- Sutter Health: 50% by 2025 and 80% by 2030 with a 2014 baseline
- University of California Health: Carbon neutral by 2025
- Virginia Mason Memorial Yakima: Carbon neutral by 2025

Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Nitrogen Trifluoride (NF<sub>3</sub>), and Sulphur Hexafluoride (SF<sub>6</sub>)

\*\*Scope 3 "Other": These are the most common emissions for health care, but there are other relevant categories in Scope 3. To review the full 15 categories covered in Scope 3, please go to the [GHG Protocol Scope 3 Guidance](#)

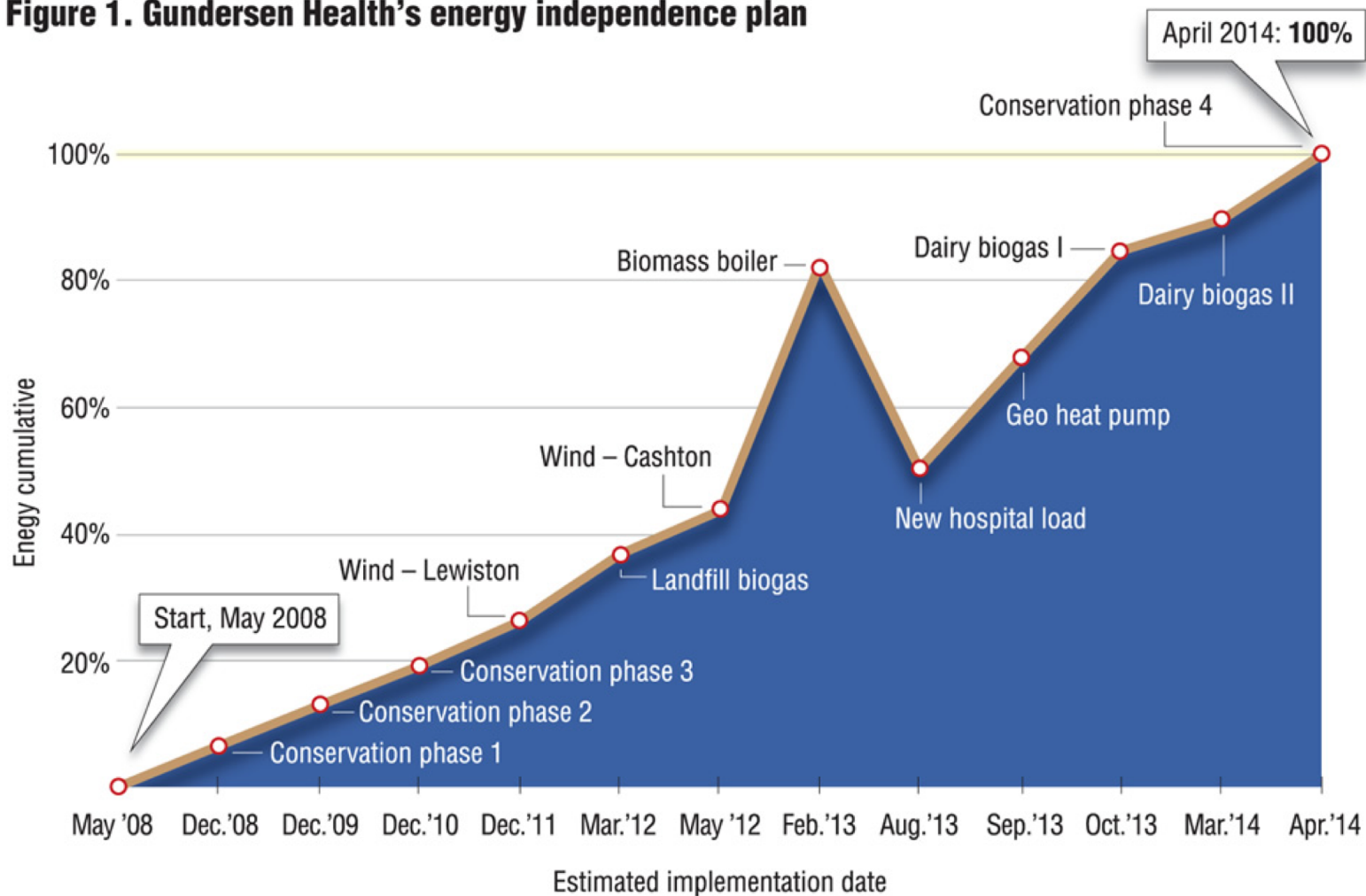
Source: Practice Greenhealth





@ Gundersen Health System

**Figure 1. Gundersen Health's energy independence plan**







@ UW Health



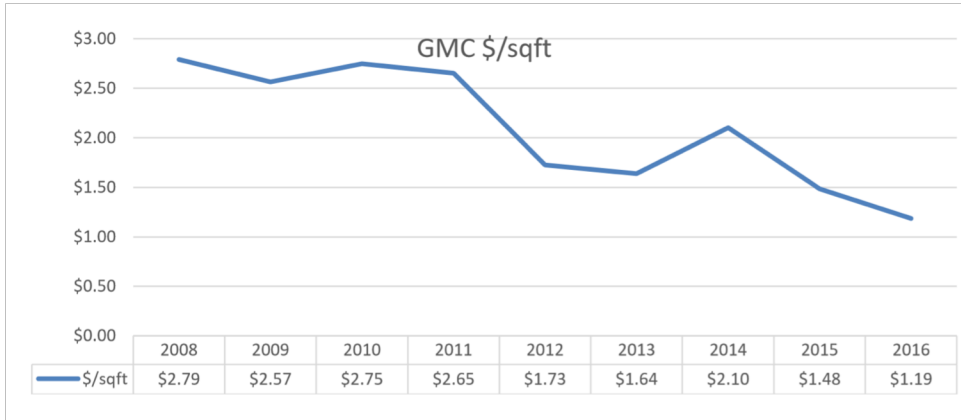
Karin Zuegge, MD, associate chair for education in the Department of Anesthesiology and health medical director for sustainability, championed this initiative at the University of Wisconsin-Madison School of Medicine and Public Health. She conducted education, developed a [website](#) with additional resources and information, and created [vaporizer label stickers](#) as a quick visual reminder for providers to consider the environmental impact of their practice. The stickers include the global warming potential of each of the anesthetic gases, links to FDA-recommended flow rates for each, and a QRC code so providers could use their smartphones to scan the code and be directed to the website for more information.

Simply by conducting education and making the information available to providers, their facility saved more than \$20,000 a month by reducing desflurane use. They also calculated their emissions per case, going from 91.67 kg/CO<sub>2</sub> per case pre-education to 56.32 kg CO<sub>2</sub> per case after education. **This reduction adds up to over 4 million kg of CO<sub>2</sub> annually, or the equivalent of taking 875 cars off the road for one year.**





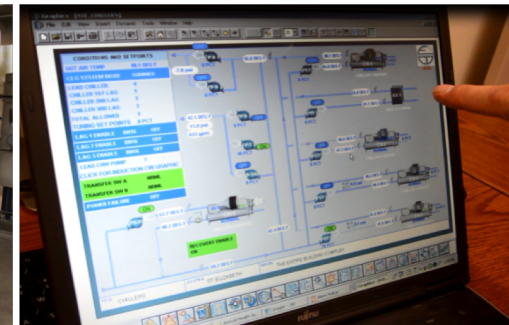
Premature Deaths	6
Chronic Bronchitis	4
Hospital Visits	6
Asthma Attacks	129
Respiratory Symptoms	6160
Work Loss Days	1136
Societal Value	\$47,943,013
Direct Medical Costs	\$5,971,041



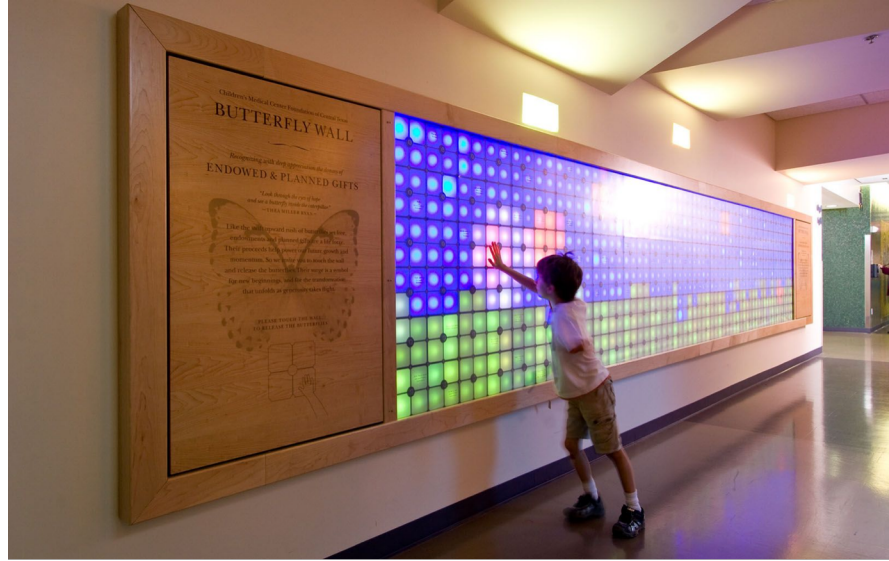
@ Geisinger Health



@ Ascension Health







With three years to spare, Ascension not only hit the Better Buildings Challenge goal to reduce energy waste by 20 percent by 2020, but also surpassed it. From July 2008 to December 2016, Ascension, the largest nonprofit health system in the U.S. and the largest Catholic health system in the world, was able to reduce energy usage by 21.4 percent. **Its energy-reducing efforts saved \$53.3 million in costs and reduced carbon dioxide emissions by 1,114,600 tons across its 141 acute care hospitals.**



Founded in 2008, Practice Greenhealth is the leading membership and networking organization for sustainable health care.

## Data 101 Series

The Practice Greenhealth Environmental Excellence Awards is more than an awards program – it's an opportunity to capture data on environmental quality improvement progress within hospitals and health systems.

Data is power. It has the power to demonstrate a return on investment. It has the power to implement positive change. When submitted through Practice Greenhealth's Environmental Excellence Awards, it can result in a custom report, helping hospitals see how they compare to their peers and nationally on numerous environmental attributes. This helps identify areas of success and helps to formalize the next set of performance goals.

Accurate data is critical in receiving the value of the process. To meet that need, Practice Greenhealth has recorded a series of Data 101 recordings to walk sustainability teams and data analysts through the data collection protocol for key performance areas. Access these recordings 24/7 to help maximize data integrity and to understand how to calculate normalizers so that the data is best able to support ongoing efforts.

**Data is power – let us help you make it as powerful as possible.**

### CLIMATE & ENERGY

#### Energy Benchmarking: How to Conduct an Energy Baseline

Practice Greenhealth teams up with the EPA's Health Care Portfolio Manager staff to de-mystify the process of energy benchmarking by discussing the goals, measures and calculation details needed to move along the three levels.

[MORE INFO](#)

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### TRANSPORTATION

#### Goals, Metrics & Toolkit

This webinar reviews the Practice Greenhealth transportation goals, identifies key transportation performance metrics and data collection processes, and highlights available transportation resources.

[MORE INFO](#)

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### SAFER CHEMICALS/SUSTAINABLE PROCUREMENT

#### Measuring Progress with Safer Chemicals: Green Cleaning, Healthy Interior, DEHP/PVC Reduction

Join us as we review the Practice Greenhealth resources available to track activities around safer chemicals in three areas – green cleaning, PVC/DEHP reduction and healthy interiors.

[MORE INFO](#)

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### SAFER CHEMICALS

#### Virtual Mercury Elimination

Learn about the Practice Greenhealth Making Medicine Mercury Free Award criteria and how to go about meeting the requirements to get recognition for this important work.

[MORE INFO](#)

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### HEALTHIER FOOD

#### Local and Sustainable, Less Meat, Better Meat, Meal Calculation

Review the metrics and data collection requirements to track and report out on healthy food initiatives. Explore the healthier food goals and measurements to track progress year over year.

[MORE INFO](#)

### LESS WASTE

#### How to Conduct a Material & Waste Baseline

Join this webinar for an overview of the categories that Practice Greenhealth has established in order for hospitals to use a standardized practice for measuring materials and waste. Review a step-by-step approach to understanding and tracking each waste stream, as required by Practice Greenhealth.

[MORE INFO](#)

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### LESS WASTE

#### How to Track Food Waste Reduction

Review the protocol for an annual 24-hour capture of food waste generated to find a way to measure progress, without the hassle of continuous measurement. Explore the tools and resources available, the food waste streams, and the resources to help your organization make progress in this very important area.

[MORE INFO](#)

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### CLIMATE & ENERGY

#### GHG Baseline Data Tracking and Goal Setting

Join us to learn more about available tools for greenhouse gas baseline data tracking, new resources, and recommended targets from Practice Greenhealth to get started on this journey.

[MORE INFO](#)

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### LESS WATER

#### Water Water Everywhere! How do you measure the facility's water footprint?

Join us to understand the expectations of the Practice Greenhealth award application as it pertains to water. Learn how to collect water use data in order to set water reduction goals and then manage water conservation programs.

[MORE INFO](#)





HealthCareWithoutHarm

October 30 at 12:30 PM · 🌐

"No one, rich or poor, can escape air pollution. It is a silent public health emergency." As the only sector with healing as its mission, health care is stepping up to "urgently respond to this challenge."

"The simple act of **breathing**  
is killing 7 million people  
per year."

- Dr. Tedros Adhanom  
Director-General  
World Health Organization

NOHARM-USCANADA.ORG

**The Guardian: Air pollution is the 'new tobacco',  
warns WHO head | Health Care Without Harm**

[Learn More](#)



HealthCareWithoutHarm

November 2 at 10:52 AM · 🌐

"It's our job to help our patients understand how they can minimize their health risks. The environment and rising temperatures are a health risk, so we have to be talking to our patients about how it impacts them."

"It's a nurse's **responsibility**  
**to care** about climate change."

- Adelita G. Cantu, PhD, RN -

NOHARM-USCANADA.ORG

**Nursing professor educates next generation of  
climate and health leaders | Health Care...**

[Learn More](#)



## Energy, Climate Facts from PGH

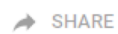
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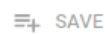
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SAVE



**Iqbal Mian**

Published on Jul 6, 2017

**SUBSCRIBE**

Watch Iqbal Mian @ Practice Greenhealth and Shanda Demorest @ Allina Health talk about how energy and climate are connected.

SHOW MORE





## Resources Shown

- [Energy Impact Calculator](#) (EIC)
- [Greenhouse Gas Reduction Toolkit](#)
- [Anesthetic GHG Reduction Blog](#)
- [Energy & Climate Facts Video Blog](#)
- [Do No Harm Video](#)
- [Practice Greenhealth Benchmark Reports](#)
- [Gundersen Health Independence Story](#)
- [Ascension Better Building's Story](#)
- [Practice Greenhealth Data 101 Series](#)





Thank You!







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