



Measuring and Managing the Healthcare Footprint

P.S. Reilly,
President, NextGen Today

ps@psreilly.com

206-914-8587

Real Sustainability in Healthcare

March 2, 2010



Regulated Greenhouse Gases and Example Sources

Table 3: Regulated Greenhouse Gases

GAS	EXAMPLE SOURCE FROM ECC OPERATIONS
Carbon Dioxide (CO₂)	<ul style="list-style-type: none"> ▪ Natural gas boilers ▪ electricity consumption ▪ oil consumption
Methane (CH₄)	<ul style="list-style-type: none"> ▪ Natural gas boilers ▪ electricity consumption ▪ oil consumption ▪ landfilling solid waste
Nitrous Oxide (N₂O)	<ul style="list-style-type: none"> ▪ Natural gas boilers ▪ electricity consumption ▪ oil consumption ▪ fertilizer on campus lawns
Hydrofluorocarbons (HFCs)	<ul style="list-style-type: none"> ▪ refrigerant gases
Perfluorocarbons (PFCs)	<ul style="list-style-type: none"> ▪ refrigerant gases
Hexafluoride (SF₆)	<ul style="list-style-type: none"> ▪ refrigerant gases

Table 2: Global Warming Potential of Specific Gases

GAS	UNITS EQUIVALENT OF CO ₂
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	21
Nitrous Oxide (N ₂ O)	310
HFC-134a	1,300
Sulfur Hexafluoride (SF ₆)	23,900



Decisions to Frame the Inventory

1. Selecting a GHG Protocol and tools
2. Scoping the preliminary and follow-on inventories
3. Choosing organization boundaries
4. Establishing base and trend years
5. Determining data collection strategy
6. Identifying data limitations and strategies for future



Scope of Emissions

Scope 1

- On-site energy production
- Mobile combustion
- Industrial activities
- Fugitive leaks
- Chemicals
- On-campus incinerations

Scope 2

- Purchased energy (electricity, gas, steam)

Scope 3

- Broader GHG from off-site operations
- Campus commutes
- Air travel
- Product purchases
- Waste disposal



Setting Goals

Goals can take a number of forms:

- **Absolute**
 - Reduce total emissions by 15 percent from 2009 - 2015
- **Normalized**
 - Reduce emissions by 12 percent per square foot of building space from 2009 - 2015
- **Index**
 - Reduce emissions by 13 percent per production index from 2009 - 2019
- **NetZero/Carbon Neutral**
 - Achieve netzero emissions by 2015 and maintain that level through 2020.



Example Initiatives to Reduce GHG

- **Operations**—focuses on the efficiencies in the day to day running of the organization
- **Procurement**—addresses the use of alternatives to traditional non-ecological approaches to materials, supplies and equipment
- **Energy**—specific initiatives on the energy sources
- **New Buildings**—new construction opportunities around energy usage
- **Buildings**—retrofit and management modifications on existing buildings
- **Grounds**—landscaping and management of the overall campus, including stormwater/greywater uses and management
- **Fleet**—the vehicles owned or managed by the campus
- **Commutes**—daily/weekly travel to and from campus by faculty, students and staff
- **Air**—air travel associated with campus activities
- **Waste**—waste, composting, and recycling activities