



# **Energy Efficiency: A tool for health and a livable Climate**

Barbara Gottlieb

Director, PSR Environment & Health program

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**PHYSICIANS FOR SOCIAL RESPONSIBILITY**

# What is a medical group doing here?

Energy Efficiency is an essential tool for health:

- In the home
- Outside
- Everywhere! (Climate change)



# Health benefits of the Energy-Efficient home: protect from heat, cold...





...from damp, dust, and mold



...from pest infestations & outside air pollutants





# Buildings: big energy users, big polluters



# Efficient energy USE helps reduce air pollution

By reducing demand for power generation, we can reduce:

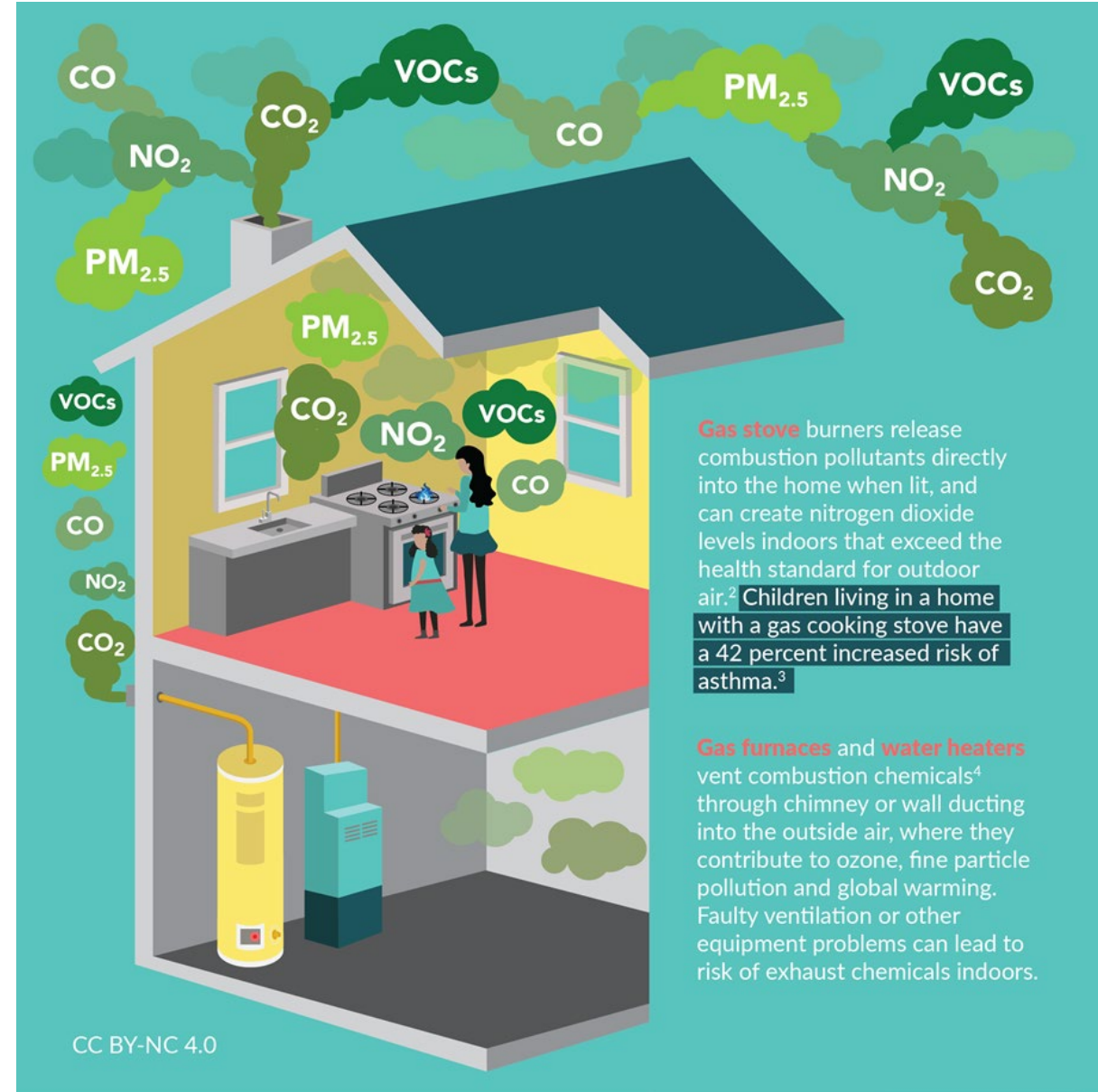
- Heart attacks
- Stroke
- Respiratory diseases, from asthma to COPD
- Cancer





# Natural gas too

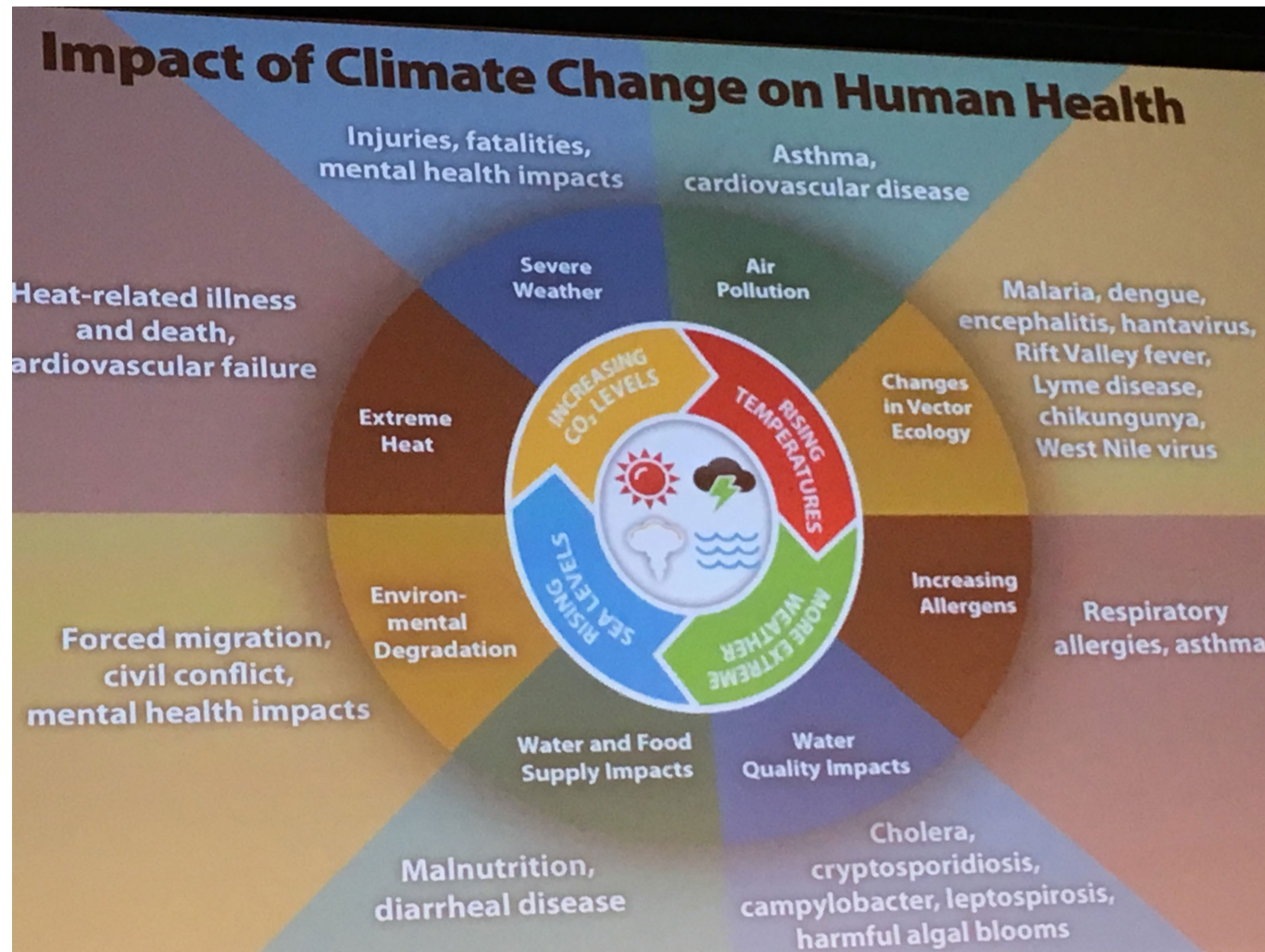
- Burning gas in stoves releases NO<sub>x</sub> at levels which can harm the lungs of children
- Burning gas in furnaces, water heaters releases NO<sub>x</sub>, VOCs, etc.
- Pipeline ruptures, fires/explosions
- “Upstream” harms associated with fracking: toxic chemicals, radioactive substances
- Methane leakage: a highly potent driver of climate change





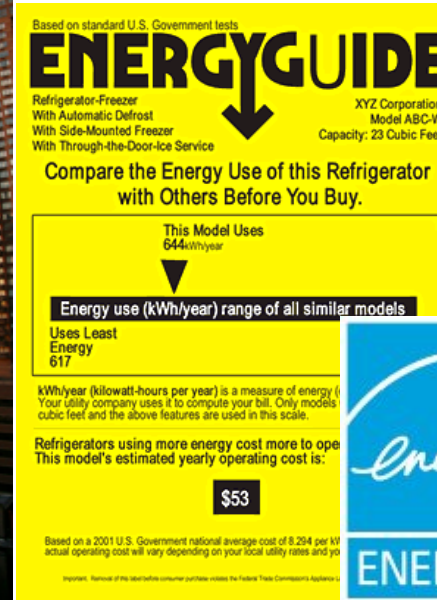
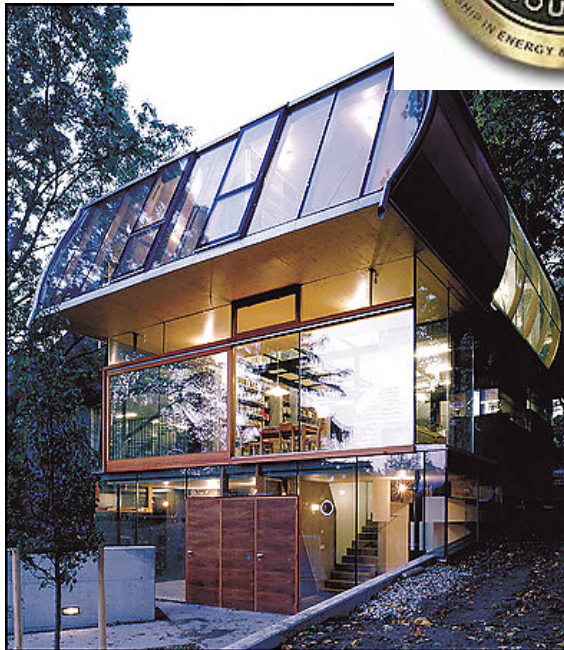
# health effects of climate change

**Greatest public health threat of the century?**



- Heat-related
- Respiratory
- Allergic
- Water-borne/infectious
- Displacement, conflict, migration
- Mental health

# Energy efficiency, an important part of the solution



*"There's no cheaper, cleaner power than power you don't have to produce."  
- Gary Zarker, Seattle City Light*

# Health benefits of energy efficiency: cleaner air, cleaner water

- Reduced combustion of fossil fuels => Cleaner air => reductions in:

- heart attacks
- respiratory diseases, incl asthma, emphysema, chronic bronchitis
- reduced lung capacity
- cancer
- premature birth/low birth weight (infant death)
- ischemic stroke

- Reduced combustion of fossil fuels => Cleaner water => reductions in:

- mercury deposition in food chain/fish, causes reduced IQ, mental retardation, impairment of neurodevelopment
- coal ash, containing deadly metals such as arsenic, lead, mercury, cadmium, chromium, selenium. Can cause various cancers, nervous system damage, death.
- Toxic chemicals and radioactive wastewater from fracked gas.



# Healthy efficient alternativeS: electric heat pump



# Healthy efficient alternativeS: induction cooktop

- Reduces indoor pollution from stoves
- Uses magnetic energy, heats only the pan
- Fast, precise cooking response
- No burns



# Healthy efficient alternatives: Electric vehicles

- EVs are more efficient than gasoline vehicles
- Electricity is less expensive than gasoline
- Efficiency is improving, prices trending down





# PSR educates on energy efficiency & health



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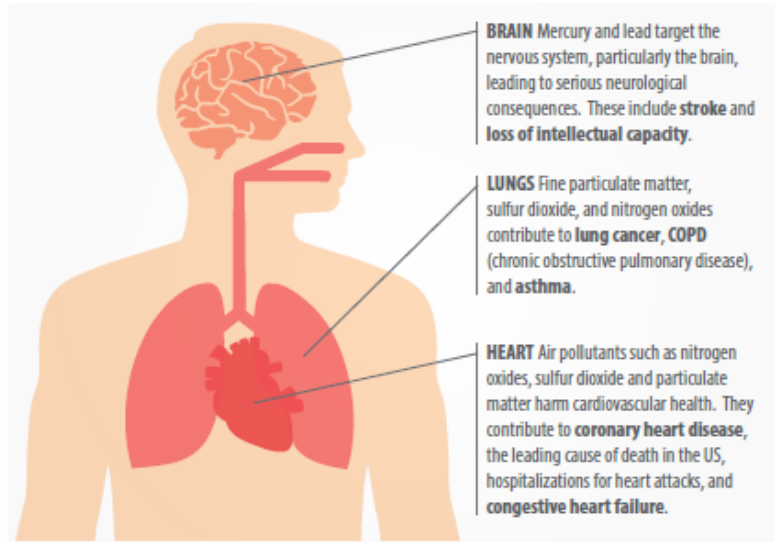
U.S. Affiliate of International Physicians for the Prevention of Nuclear War, recipients of the 1985 Nobel Prize for Peace

## Energy Efficiency and Health

Energy efficiency is all about using technology and best practices to produce the same or better levels of services, such as light, temperature control, or motor drive power, while using less energy. Very simply, it's about reducing waste.

**Energy efficiency and health.** Lowering the amount of energy we waste reduces our need to burn coal and other fossil fuels to generate electricity. Those reductions in pollution mean big gains for health, as pollutants from fossil fuel combustion contribute to four of the leading causes of death in the United States: cancer, chronic lower respiratory diseases, heart disease, and stroke. These pollutants damage all the major organ systems in the body.

**RESPIRATORY SYSTEM** Fossil fuel pollutants, particularly fine particulate matter and nitrogen oxides, contribute to serious respiratory health problems including: lung cancer, which kills more men and women in the US than any other form of cancer; COPD (chronic obstructive pulmonary



**BRAIN** Mercury and lead target the nervous system, particularly the brain, leading to serious neurological consequences. These include **stroke** and **loss of intellectual capacity**.

**LUNGS** Fine particulate matter, sulfur dioxide, and nitrogen oxides contribute to **lung cancer**, **COPD** (chronic obstructive pulmonary disease), and **asthma**.

**HEART** Air pollutants such as nitrogen oxides, sulfur dioxide and particulate matter harm cardiovascular health. They contribute to **coronary heart disease**, the leading cause of death in the US, hospitalizations for heart attacks, and **congestive heart failure**.

Health Effects of Fossil Fuel Pollutants

**A big bang for your buck.** Technology upgrades to improve the way your home, building, or business functions typically require some up-front investment. Investments in new systems, better lighting, and insulation lower

# PSR engages health professionals



## Workbook 1: Energy Efficiency

[Home](#) → [Workbook 1: Energy Efficiency](#)

### Introduction

Energy efficiency is the cornerstone of My Green Doctor. This is where a doctor's responsibility for patient care, and rarely with consideration for the cost of office operation and

The word "energy" was coined by Aristotle, the 4C BCE Greek philosopher, 1

There are two key tenants to remember as you approach this topic: first, the immediately for the "low hanging fruit," the quick and inexpensive ways to sa

We provide dozens of Action Steps that your office can adopt for lowering your energy bill and the air pollution from the burning of these fuels. Every idea in this W

### Energy Efficiency Action Steps

We offer 50 Energy Efficiency Action Steps and Education Steps for you to c



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practices,  
local, state, & federal Policy**





# Health professionals are trusted messengers



[www.psr.org](http://www.psr.org)

**Barbara Gottlieb**

[bgottlieb@psr.org](mailto:bgottlieb@psr.org)