

# *Energy Efficiency: Climate Solution #1, 2, and 3...*



**BPA Energy  
Efficiency  
03.18.09**

**K.C. Golden  
Policy Director  
Climate Solutions**



**WEDNESDAY, NOVEMBER 14, 6-8 PM**  
5:30 reception with food and music  
Lake Merritt United Methodist Church  
1330 Lakeshore Ave., Oakland

# “We are addicted to fossil fuels”

**Symptoms:**

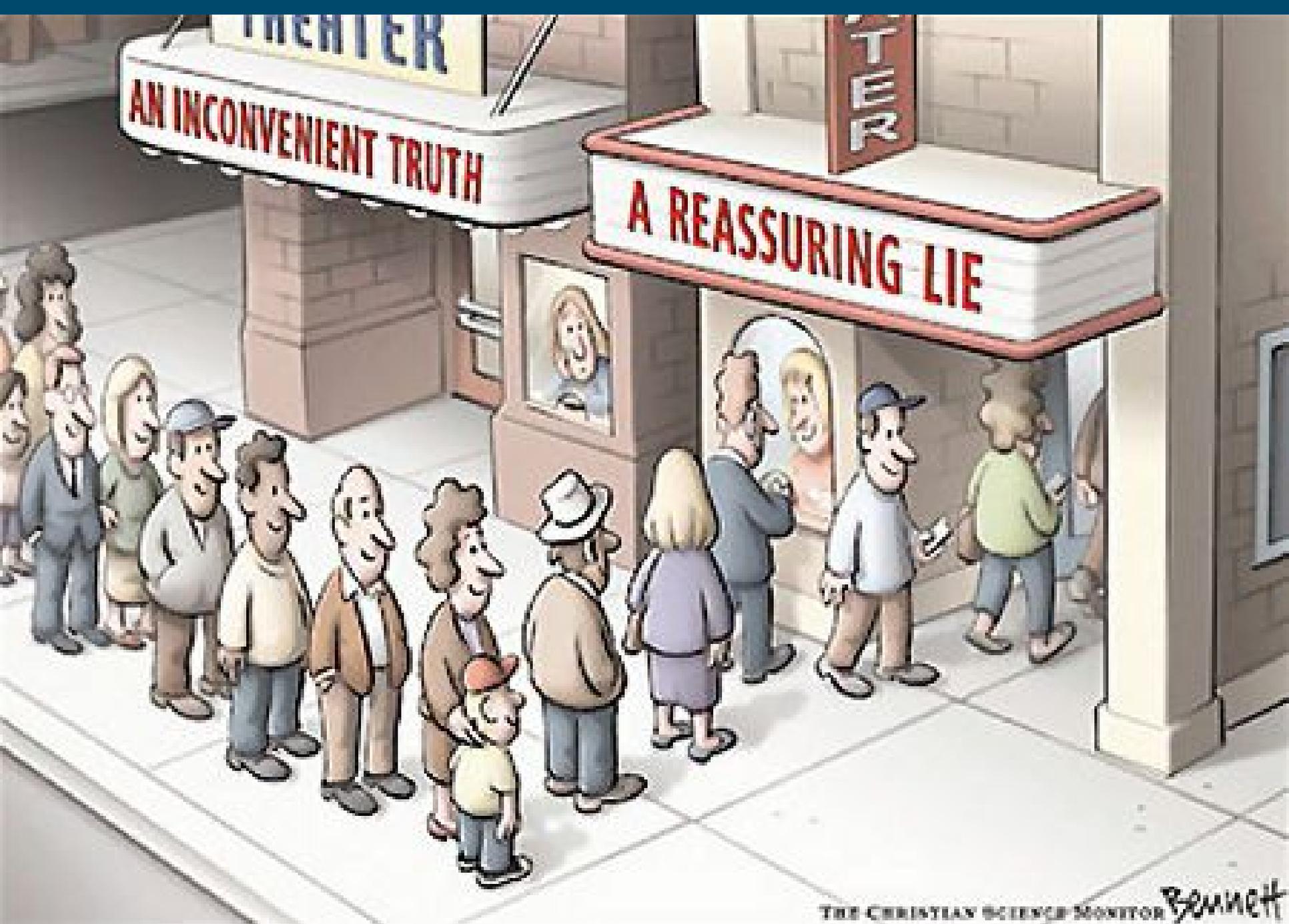
***Acute national insecurity:*** “Paying for both sides of the war on terror”

***Economic hemorrhaging:***

Washington lost \$16.5 Billion in 2008

Oregon lost \$9.4 Billion

***Fever:***



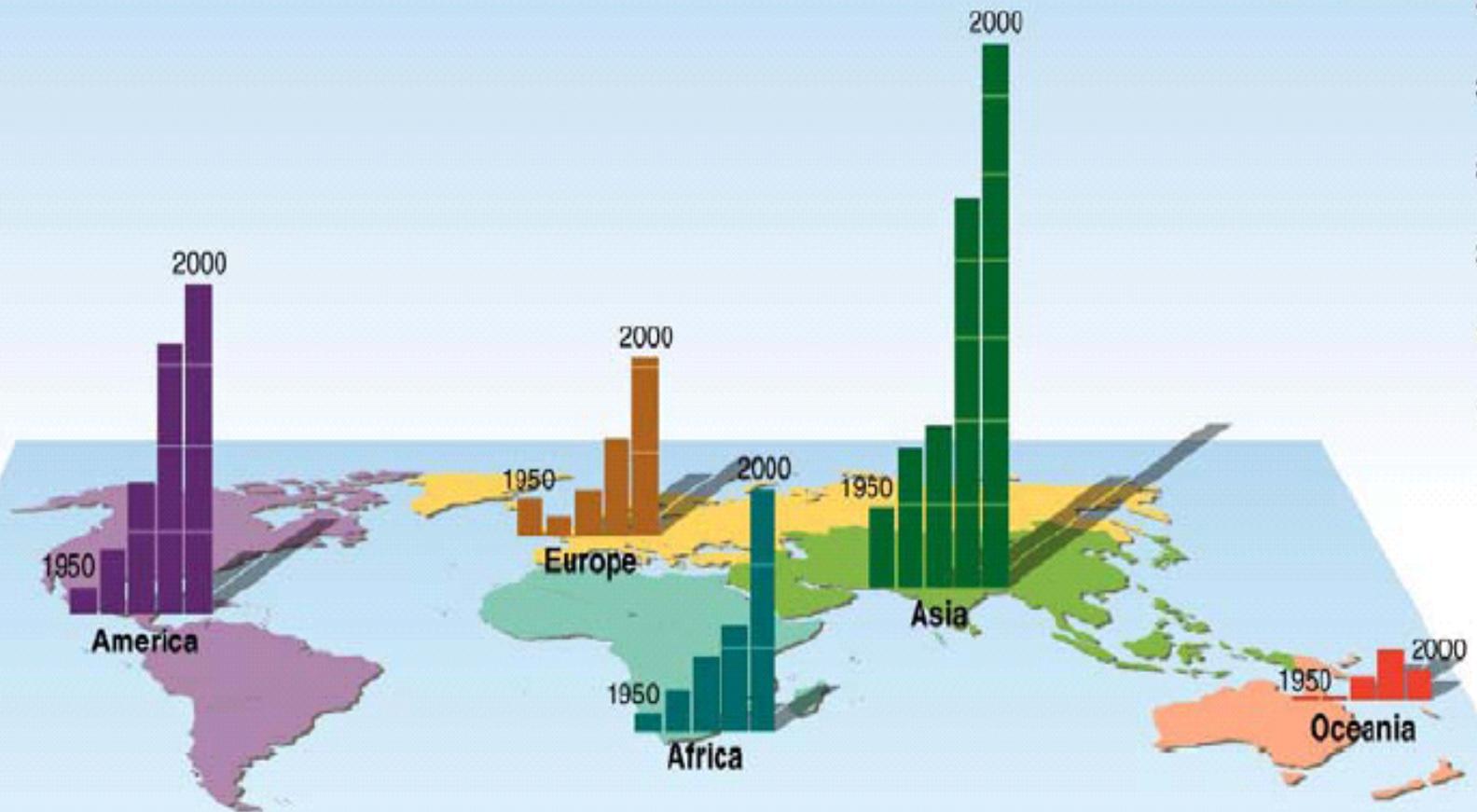


**Appendix Figure A.7. Number of Flood Events by Continent and Decade Since 1950**  
(C16, Fig 16.6)

# Floods

Number of events  
Data plotted by decade

350  
300  
250  
200  
150  
100  
50  
0



Source: Millennium Ecosystem Assessment

## SCIENCE IN REVIEW

By WALDEMAR KAEMPFERT

*New York Times (1857-Current file)*; Oct 28, 1956; ProQuest Historical Newspapers The New York Times (1851 - 2003)  
pg. 191

# SCIENCE IN REVIEW

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## Warmer Climate on the Earth May Be Due To More Carbon Dioxide in the Air

By WALDEMAR KAEMPFERT

The general warming of the climate that has occurred in the last sixty years has been variously explained. Among the explanations are fluctuations in the amount of energy received from the sun, changes in the amount of volcanic dust in the atmosphere and variations in the average elevation of the continents.

According to a theory which was held half a century ago, variation in the atmosphere's carbon dioxide can account for climatic change. The theory was generally dismissed as inadequate. Dr. Gilbert Plass

(starches) causes a large loss of carbon dioxide, but the balance is restored by processes of respiration and decay of plants and animals.

Despite nature's way of maintaining the balance of gases the amount of carbon dioxide in the atmosphere is being artificially increased as we burn coal, oil and wood for industrial purposes. This was first pointed out by Dr. G. S. Callendar about seven years ago. Dr. Plass develops the implications.

### Generated by Man

Today more carbon dioxide is being generated by man's activities

# We Can Do It!



POST FEB. 15 TO FEB. 28



WAR PRODUCTION CO-ORDINATING COMMITTEE

“We are addicted to fossil fuels”

Symptoms:

***Acute national insecurity:*** “Paying for both sides of the war on terror”

***Economic hemorrhaging:***

Washington lost \$16.5 Billion in 2008

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***Fever:***

# Treatments for addiction

- **Gas tax holiday: Cheaper drugs**
- **More drilling and mining:  
Increase the supply of drugs**
- **Forget it!**

✓ **Quit:** Steadily  
reduce dependence...

*....by building a clean  
energy economy....*



# **CAP climate pollution**

**Policy commitment to steadily  
reduce fossil fuel dependence**



**...and a platform for  
launching a green economy**

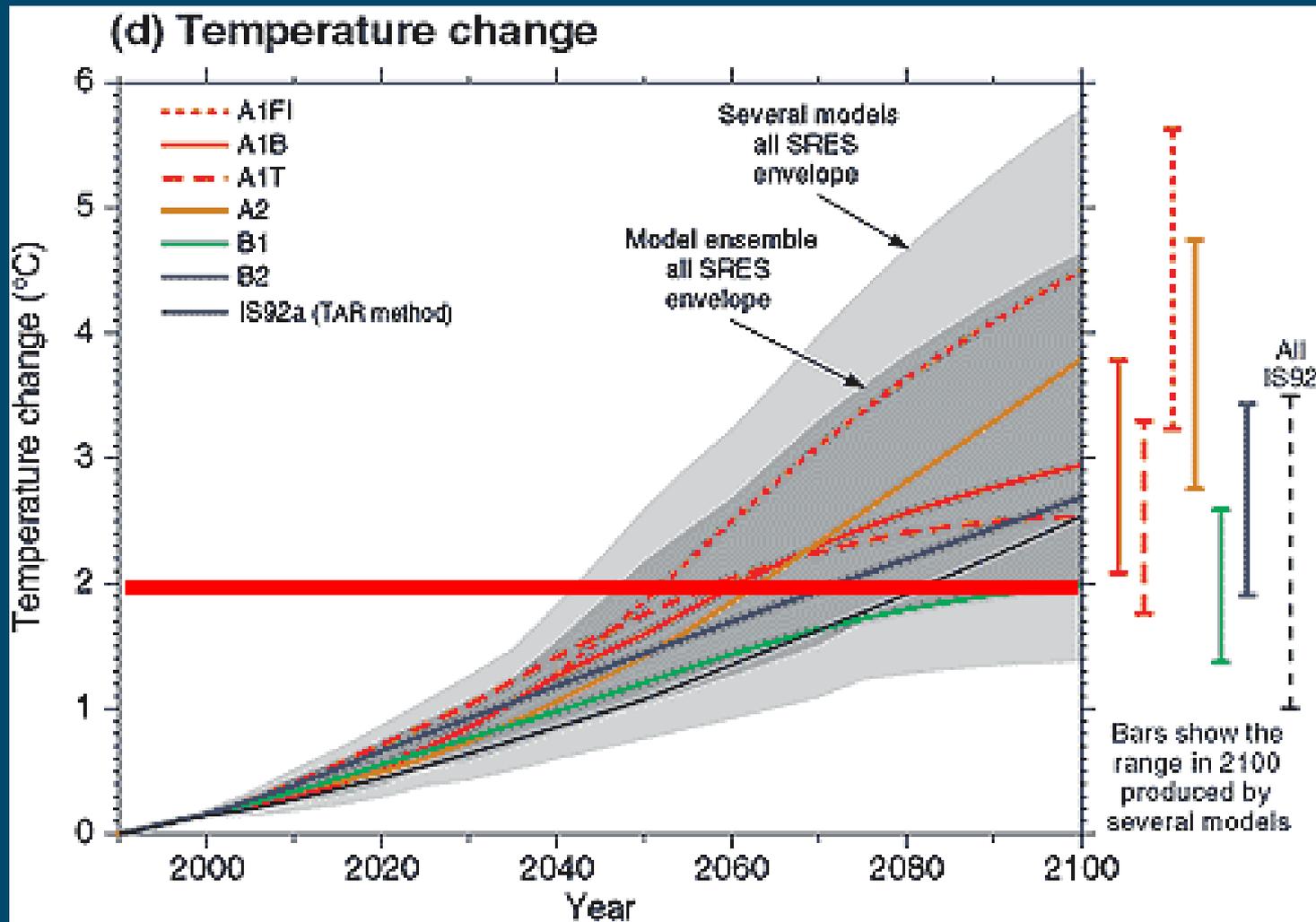
May I be granted

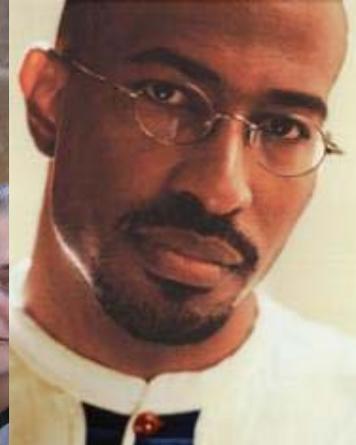
**Serenity to accept the things I cannot  
change**

**Courage to change the things I can**

***Wisdom* to know the difference**

.....*Wisdom* to know the difference





Hope is a stance,  
not a calculation

- Frances Moore Lappe

....but for those of us who need a little calculation...

*How much do we have to reduce climate pollution?*

to “a level that would prevent dangerous anthropogenic interference with the climate system.”

*How much is that?*

Avoid increase in average global temperature > 2 degrees F from today's levels

*How much is that?*

Stabilize the concentration of GHGs at 350-450 ppm

*So how much do we have to reduce climate pollution?*

**50-80% below 1990 by 2050; > 80% in U.S.**

# UNITED STATES OF CLIMATE CHANGE

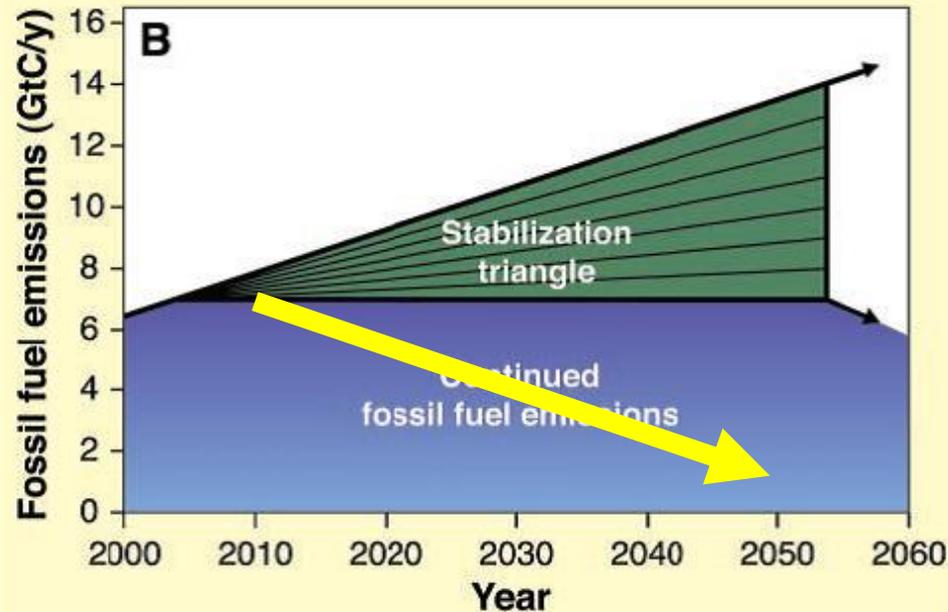
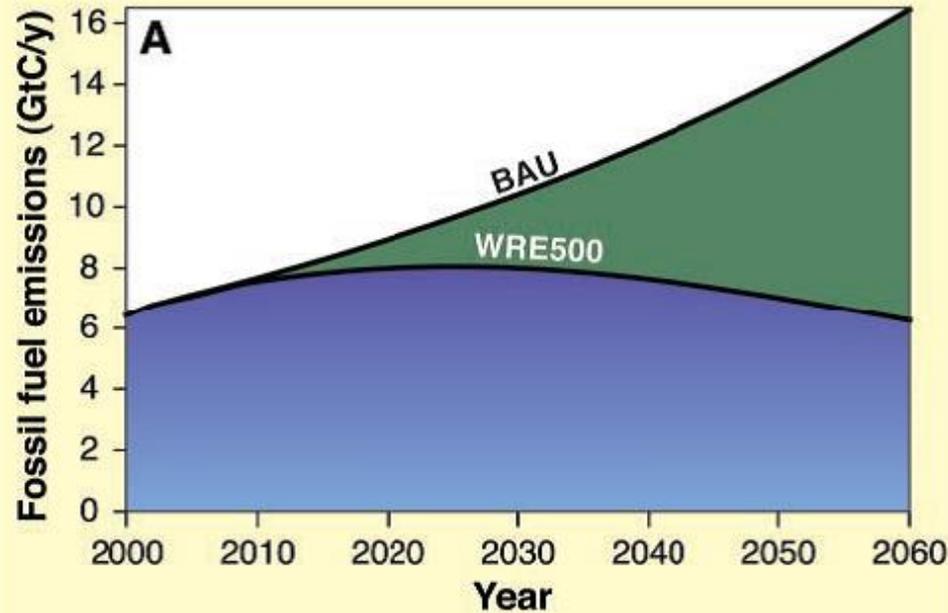
Greenhouse gas emissions from energy, national equivalents



Map is based on data calculated from US Department of Energy. Emissions are an average of the period from 2001 to 2003 and include energy use only and exclude carbon sinks. Emissions are considered "equivalent" if they are within 10 percent.

In 2003, more than 3 billion people lived in the countries named on this map; the US population was 291 million.

# Solutions



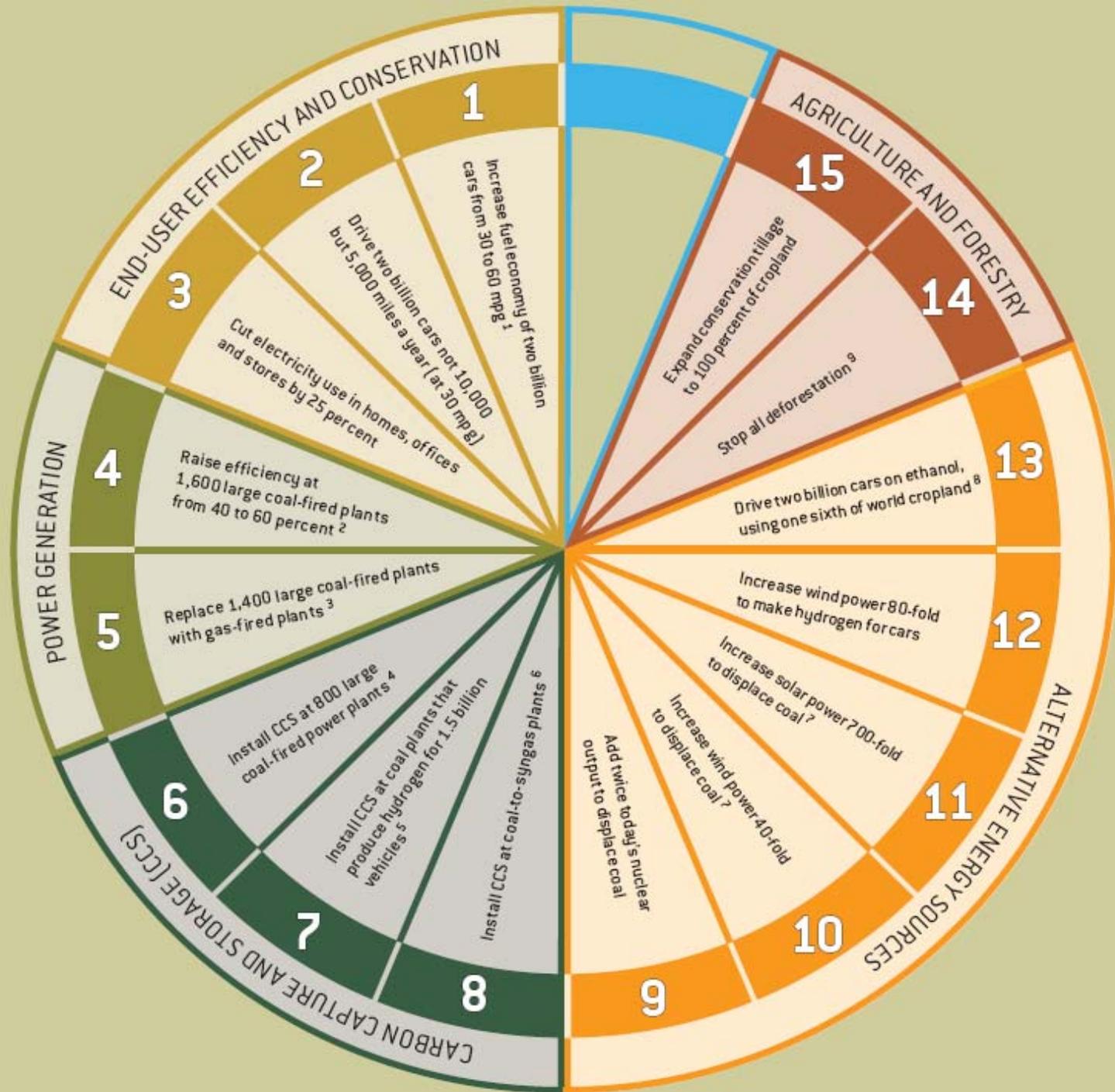
**Stabilization Wedges:**  
*Solving the climate problem  
for the next 50 years with  
current technologies*

***S. Pacala and R. Sokolow***

*Science* 13 August 2004:

Vol. 305, no. 5686, pp. 968 - 972

DOI: 10.1126/science.1100103



# Why efficiency is wedge #1 ... and 2 and 3

## 1. Get the tons:

- **14 million tons CO2 reduction from power sector alone in 2007**
- **Vast potential now, more over time**

# Efficiency and Conservation

transport



buildings



industry



## How big is a wedge?

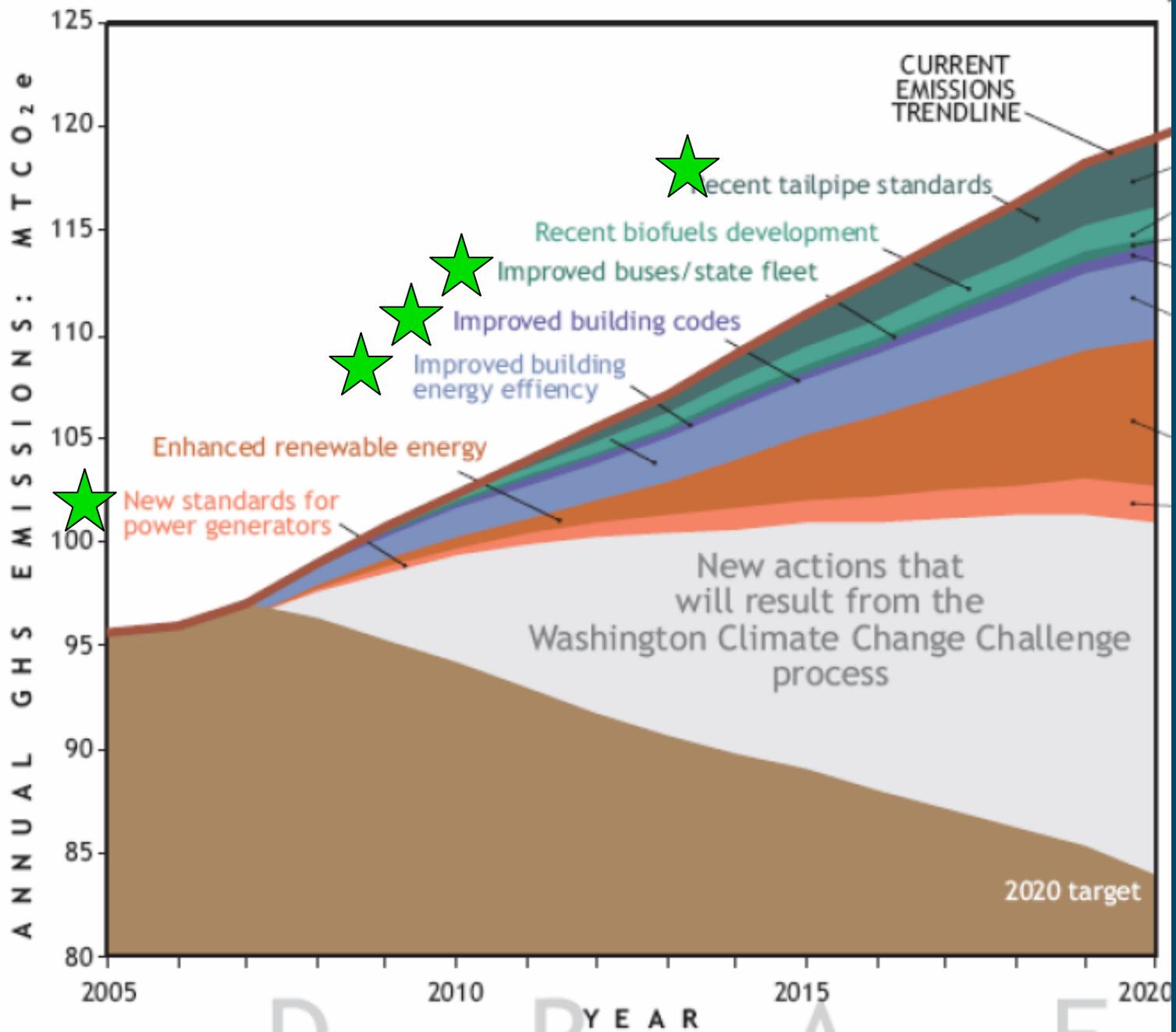
*2 billion cars @ 60 mpg  
25% res/comm savings*

power



lifestyle





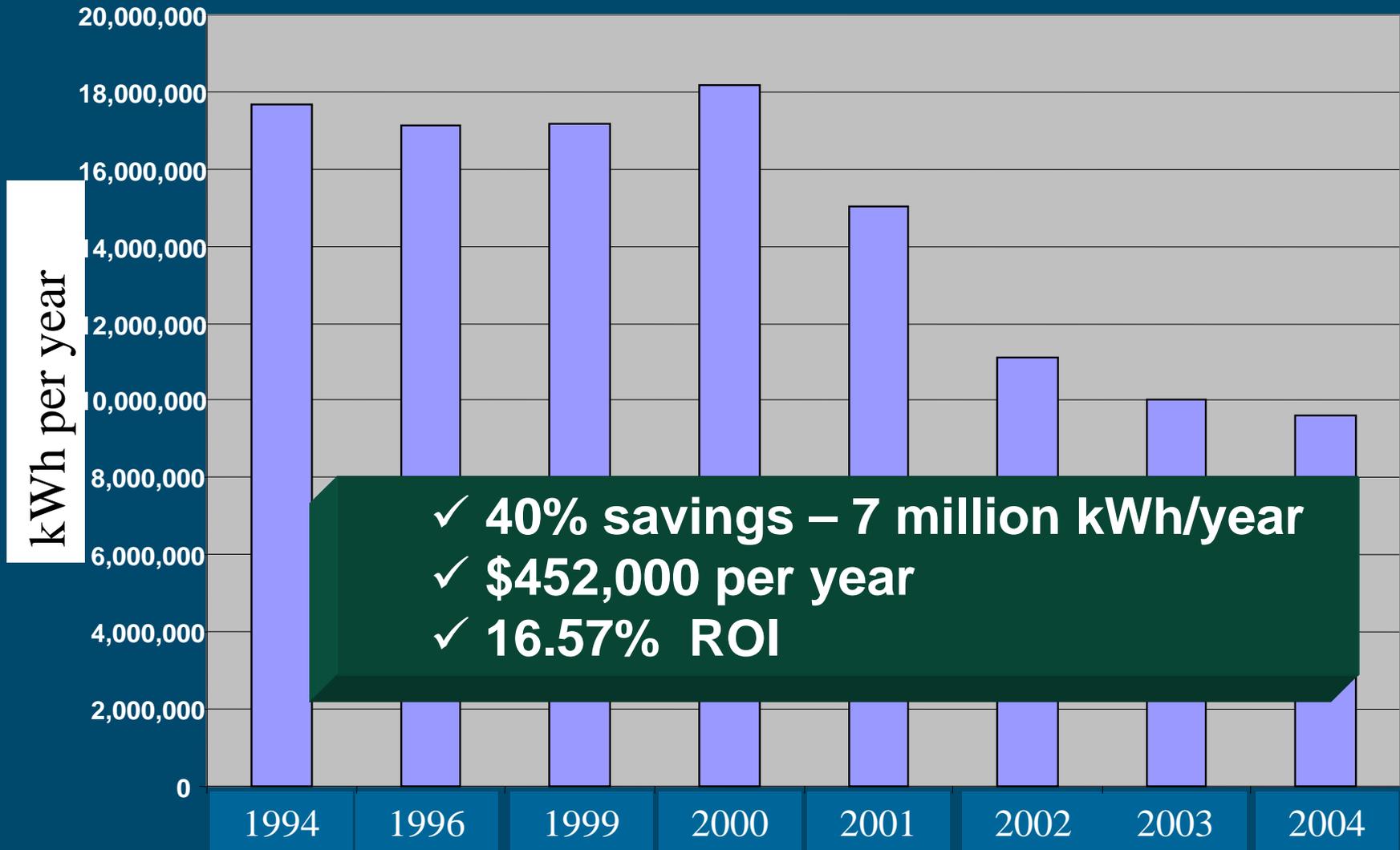
# Why efficiency is wedge #1 ... and 2 and 3

**1. Get the tons**

**2. A+ economics, negligible environmental impact**

- **\$1.6 Billion in 2007**
- **Take it back: \$16 B in WA, \$9B in OR**
- **Reducing demand makes everything cheaper**

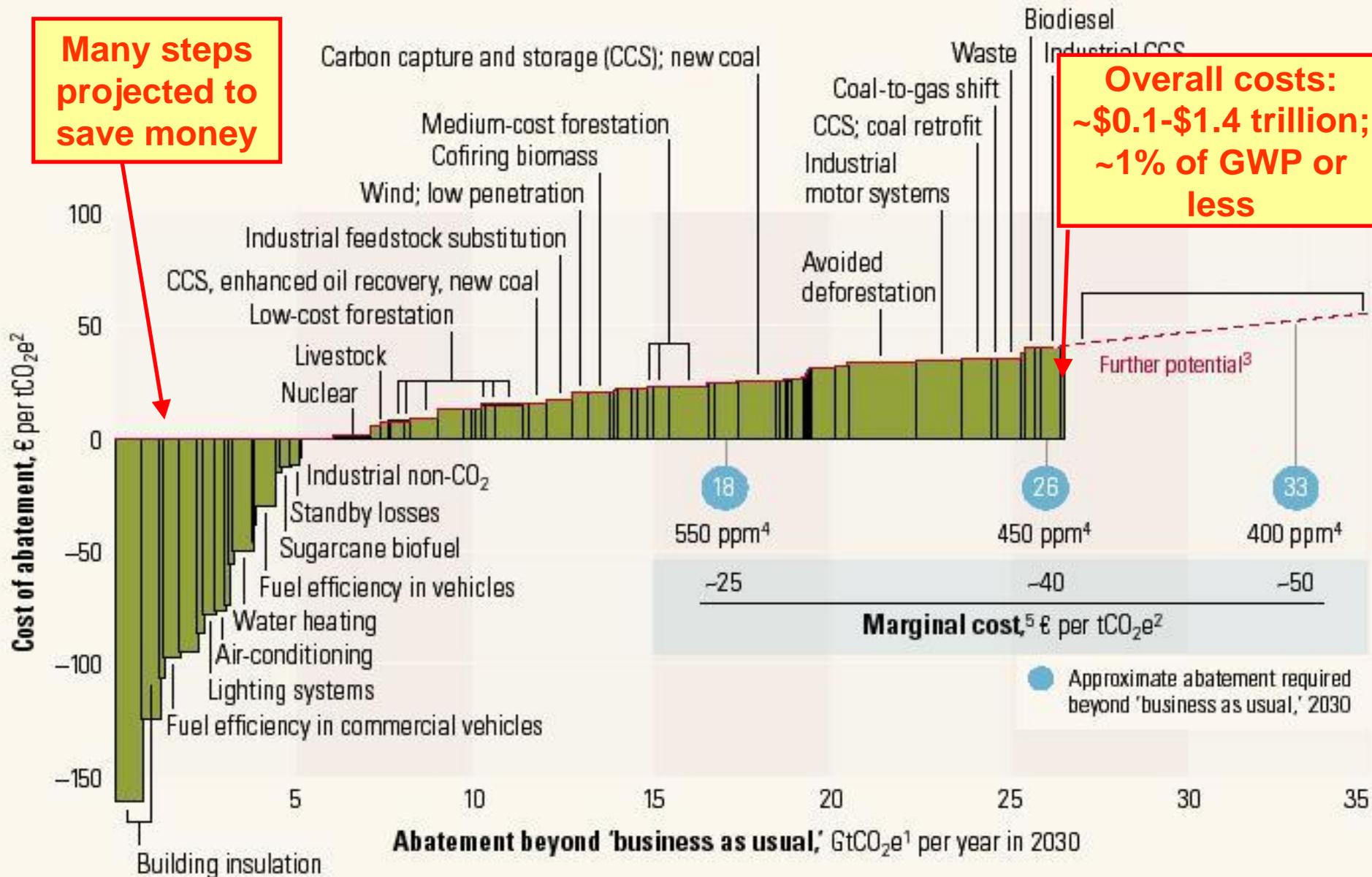
# One Union Square Annual Energy Use



# WHAT WOULD IT COST?

Many steps projected to save money

Overall costs: ~\$0.1-\$1.4 trillion; ~1% of GWP or less



# Why efficiency is wedge #1 ... and 2 and 3

1. **Get the tons**
2. **A+ economics, negligible environmental impact**
3. **We can all do it and we can all benefit**

***Get your wedge on!***

But... 2 “lessons” that hold us back

## low-hanging fruit



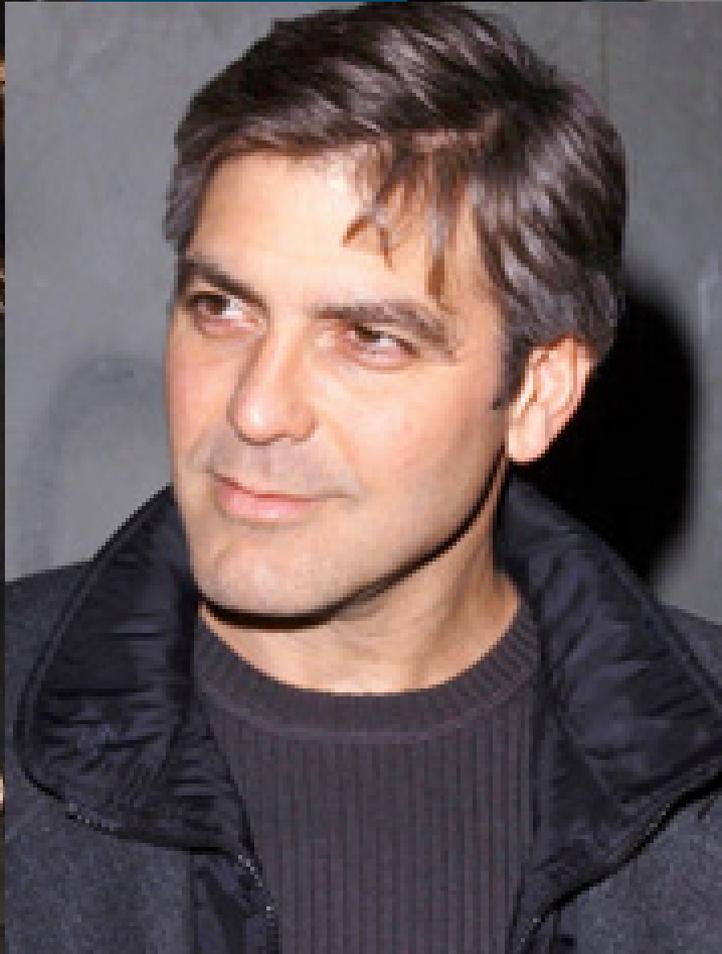
*Reach high, and  
get renewables too*

But... 2 “lessons” that hold us back

**“Efficiency” not  
conservation**



Suppose it had been.....



# SEX



<http://www.youtube.com/watch?v=18Bpy4EvivI>

## ***Policy matters:***

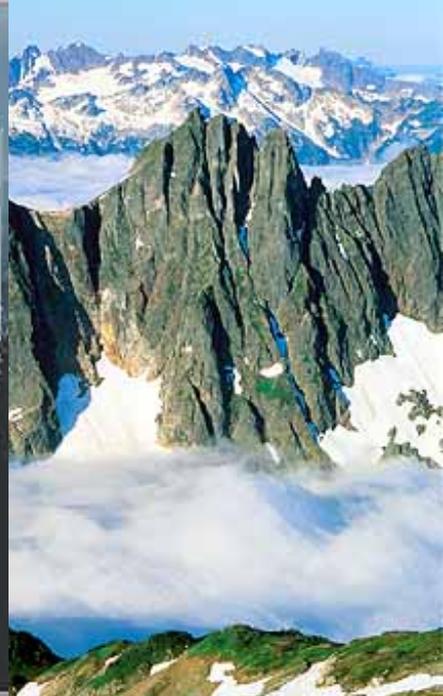
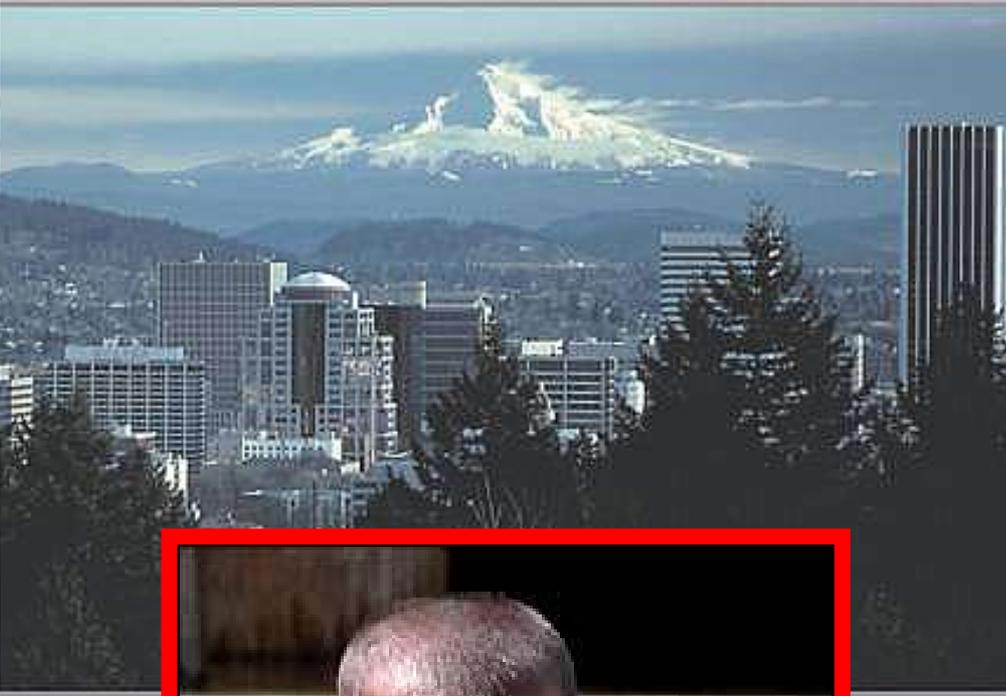
**US fuel economy standards world's weakest;  
automakers in decline**

**The *average* new  
Ford gets fewer MPG  
than the Model T**



# What you can do now

- **Get it:** [climatesolutions.org](http://climatesolutions.org)
- **Do it:** this crowd *invented* it
- **Change it:**
  - **OR: Healthy Climate Partnership**  
[jamie@climatesolutions.org](mailto:jamie@climatesolutions.org)
  - **WA: 1Sky Washington**  
[joelle@climatesolutions.org](mailto:joelle@climatesolutions.org)
  - **National: 1Sky.org**

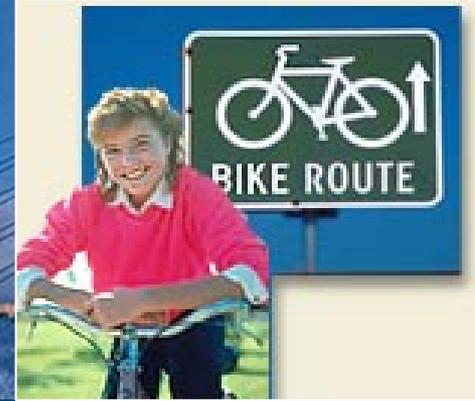


# AIM HIGH

The greatest danger for most of us is not that our aim is too high and we miss it, but that it is too low and we reach it.

*Michelangelo*





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