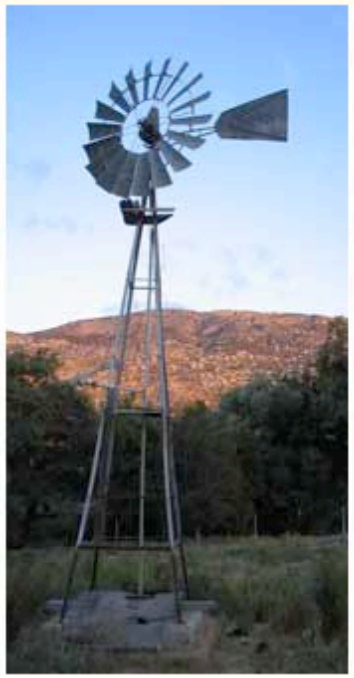
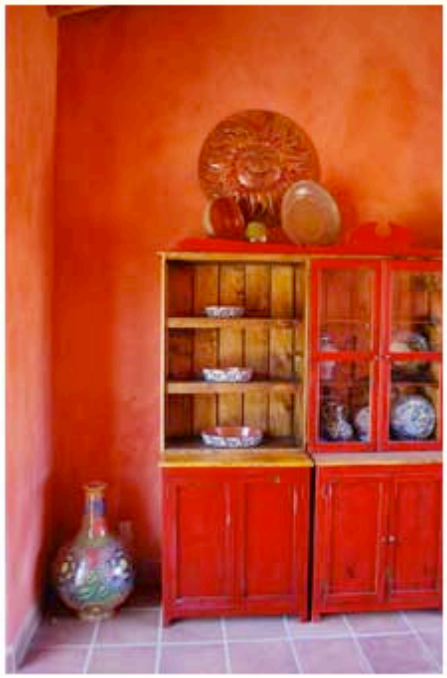
RANCHO LA PUERTA

Dr. Lisa Shaffer
UC San Diego

Creating your own climate action plan




Today's Plan

1. What do you know?
   About climate change
   About your own carbon footprint?
   Where can you find reputable information?

2. What can you do?
   What you can ask, buy, eat. What makes a difference?
   Individual voices – what you say, who you vote for, who you speak to, who you listen to, what you teach your children and friends
   Collective voices

What Do You Know?

Assuming global warming is happening, do you think it is…

1. Caused mostly by human activities
2. Caused by both human activities and natural changes
3. Caused mostly by natural changes in the environment
4. None of the above because global warming isn't happening
5. Other
6. Don't know

The “greenhouse effect” refers to …

a. Gases in the atmosphere that trap heat
b. The Earth’s protective ozone layer
c. Pollution that causes acid rain
d. How plants grow
e. Don’t know

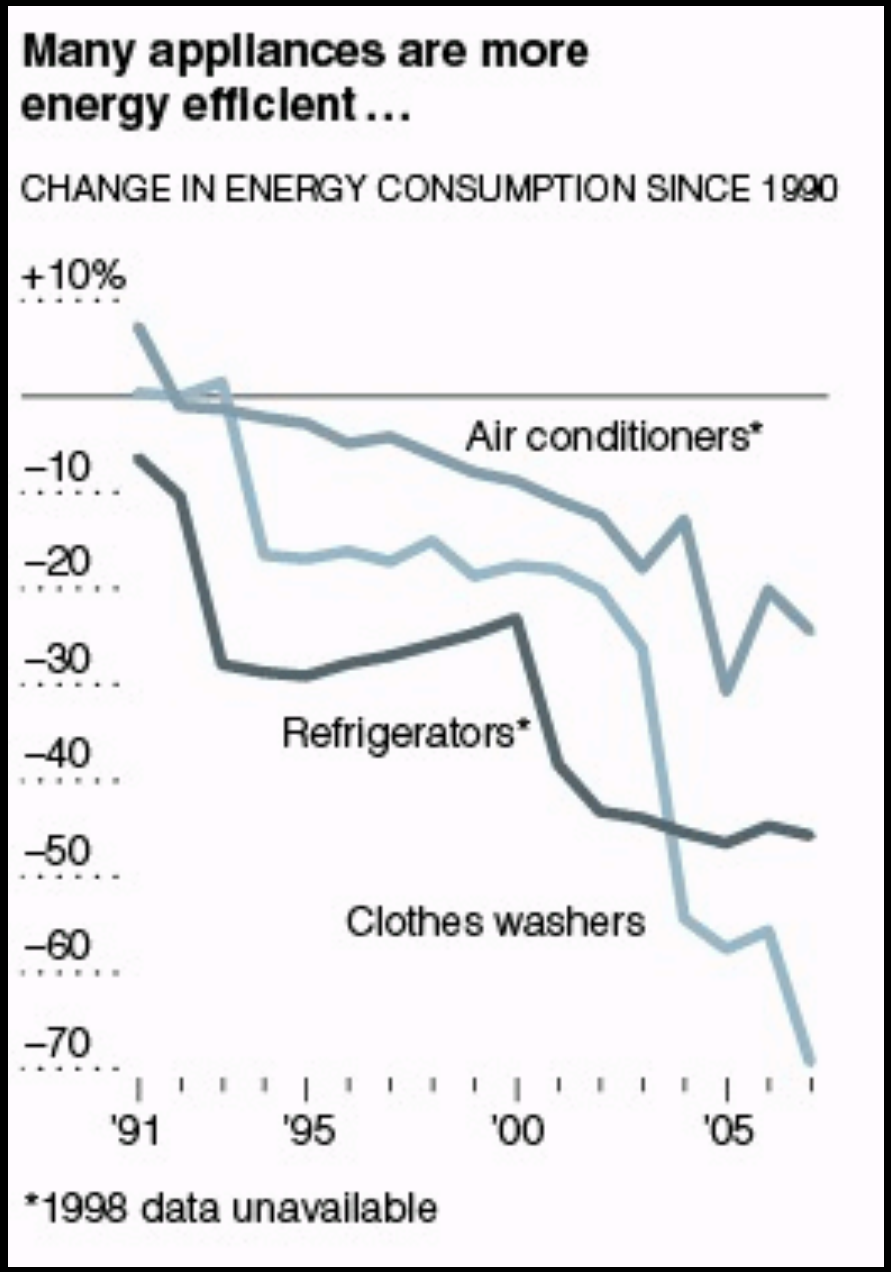
Which of the following are “fossil fuels”?

- ✔ Coal
- Wood
- Solar Energy
- ✔ Oil
- ✔ Natural Gas
- Hydrogen

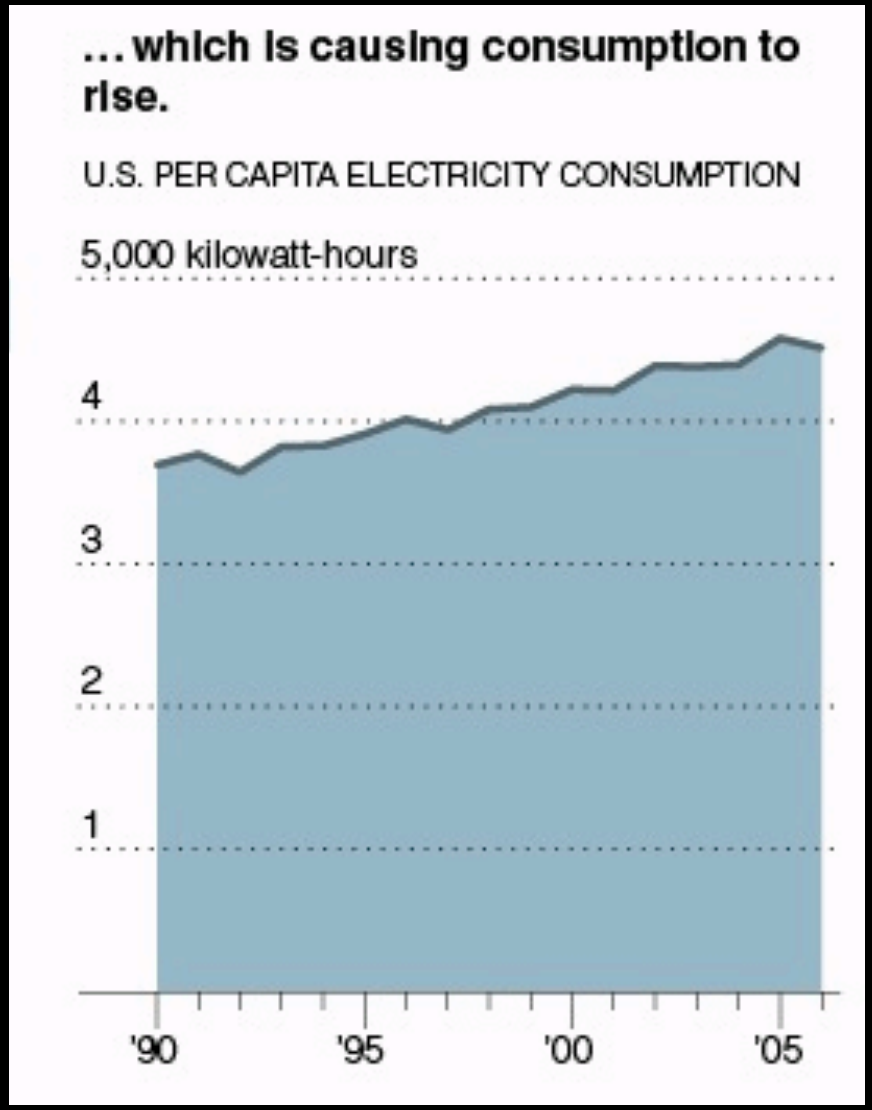
The study found that 63 percent of Americans believe that global warming is happening, but many do not understand why.

… only 8 percent of Americans have knowledge equivalent to an A or B, 40 percent would receive a C or D, and 52 percent would get an F.

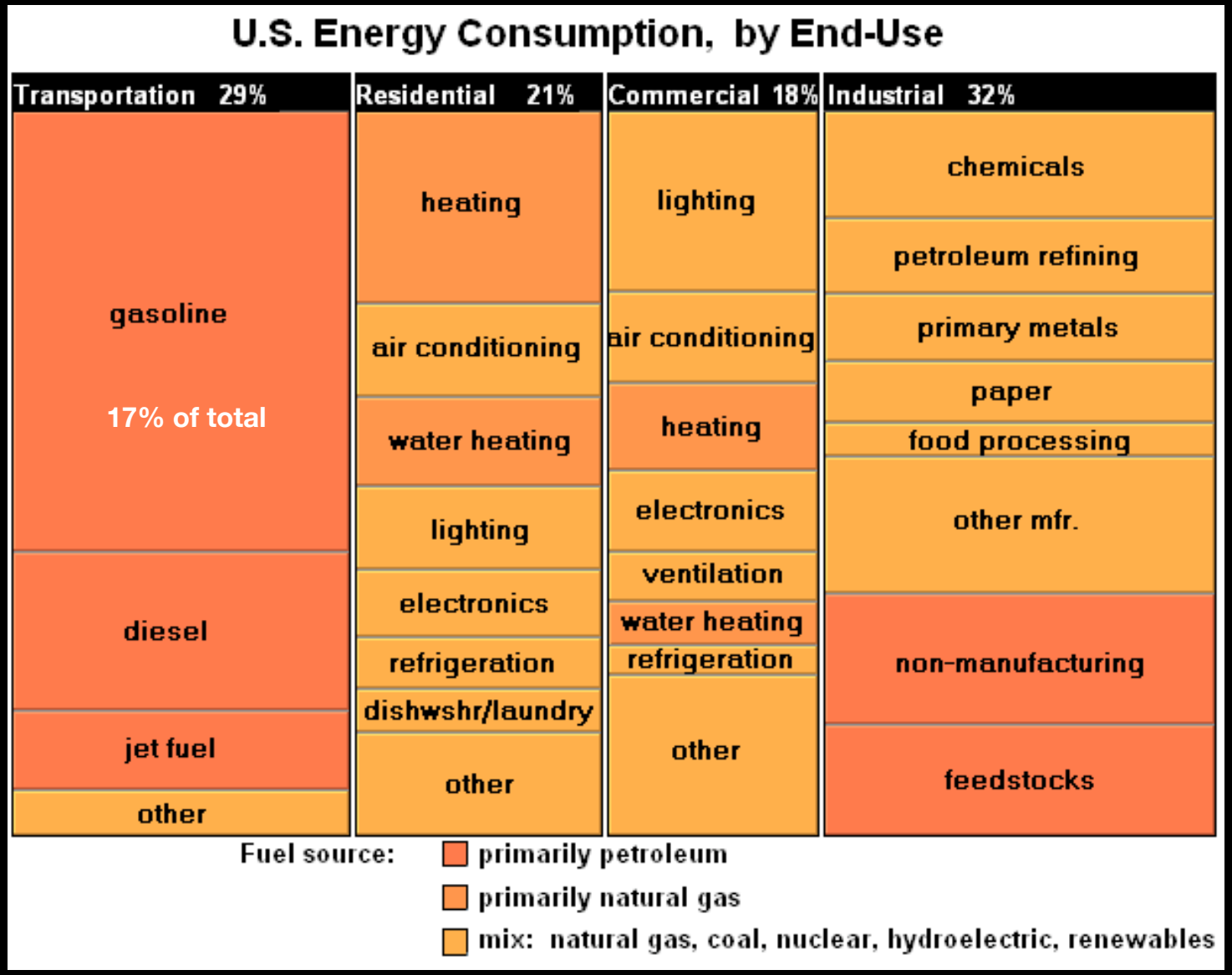
The study also found important gaps in knowledge and common misconceptions about climate change and the earth system. … Thus many Americans lack some of the knowledge needed for informed decision-making in a democratic society.


Many appliances are more energy efficient ...
CHANGE IN ENERGY CONSUMPTION SINCE 1990
+10%
–10
–20
–30
–40
–50
–60
–70
Air conditioners*
Refrigerators*
Clothes washers
'91
'95
'00
'05
*1998 data unavailable

But we have more of them ….



Game consoles in US use as much electricity per year as the city of San Diego!


U.S. Energy Consumption, by End-Use
Transportation 29%
gasoline
17% of total
diesel
jet fuel
other
Residential 21%
heating
air conditioning
water heating
lighting
electronics
refrigeration
dishwshr/laundry
other
Commercial 18%
lighting
air conditioning
heating
electronics
ventilation
water heating
refrigeration
other
Industrial 32%
chemicals
petroleum refining
primary metals
paper
food processing
other mfr.
non-manufacturing
feedstocks
Fuel source:
primarily petroleum
primarily natural gas
mix: natural gas, coal, nuclear, hydroelectric, renewables

Each of us has a carbon footprint

The total amount of greenhouse gases produced to directly and indirectly support human activities, usually expressed in equivalent tons of carbon dioxide (CO_2).

How to create 1 kg of CO_2 Equivalent

* Travel by public transportation (train or bus) 6.5 to 7 miles

* Drive with your car 3.75 miles (assuming 39 mpg)

* Fly with a plane 1.375 miles

* Operate your computer for 32 hours (60 Watt consumption)

* Produce 5 plastic bags

* Produce 2 plastic bottles

* Produce 1/3 of an American cheeseburger (yes, the production of each cheeseburger emits 3.1 kg of CO2!)

Household carbon footprint calculator

Enter your consumption of each type of energy, and press the Calculate button

Your individual footprint is calculated by dividing the amount of energy by the number of people in your house.

To calculate your full household footprint, select "1".

How many people are in your household?	1	
Electricity:	4800	kWh
Natural gas:	252	therms
Heating oil:		US gallons
Coal:		kWh
LPG:		therms
Propane:		US gallons
Wooden pellets:		metric tons

Calculate Household Footprint

Total House Footprint = 2.69 metric tons of CO_2 Offset Now

1.32 metric tons: 4800 kWh of electricity in California [remove]

1.37 metric tons: 252 therms of natural gas [remove]

http://www.carbonfootprint.com/calculator.aspx

Flight carbon footprint calculator

You can enter details for up to 3 flight itineraries

◉ Return trip ○ One-way flight

From:

To:

Via (optional):

Class: Economy class

Trips: 1

☐ Click to include radiative forcing what's this?

Calculate & Add To Footprint

Total Flights Footprint = 2.98 metric tons of CO_2 **Offset Now**

1.47 metric tons: 2 x Economy class direct return flight from SAN to IAD [remove]

1.50 metric tons: Economy class direct return flight from SAN to SNN [remove]

Car carbon footprint calculator

You can enter details for up to 2 cars

Mileage: 12000 miles

Choose vehicle: USA car database

2010

Honda

reset INSIGHT

HNX Index:2 Eng:1.3 Cyl:4 Auto(AV-S7)

Or enter efficiency: 128.3869 g/km (+15

Calculate & Add To Footprint

Total Car Footprint = 2.85 metric tons of CO_2 Offset Now

2.85 metric tons: 12000 miles in a USA 2010 Honda INSIGHT HNX Index:2 Eng:1.3 Cyl:4 Auto(AV-S7) [remove]

Food preferences

I eat mainly white meat

Organic produce

Some of the food I buy or grow is organic

In season food

I try to buy or grow some in season food

Imported food and goods

I prefer to buy goods produced closer to home

Fashion

I buy new clothes when I need them

Packaging

I try and buy things with little packaging

Furniture and electricals

I mostly buy new but generally keep things for more than 5 year

Recycling

Most of my waste is recycled

Recreation

I occasionally go out to places like the movies, bars or restauran

Car manufacture

I own one car

Finance and other services

I use the standard range of financial services

Estimate Secondary Footprint

Total Secondary Footprint = 4.40 metric tons of CO_2 **Offset Now**

Your Carbon Footprint:

☑ House	2.69 metric tons of CO_2
☑ Flights	2.98 metric tons of CO_2
☑ Car	2.85 metric tons of CO_2
☑ Motorbike	0.00 metric tons of CO_2
☑ Bus & Rail	0.00 metric tons of CO_2
☑ Secondary	4.40 metric tons of CO_2

Total = 12.91 metric tons of CO_2

To offset some or all of your carbon footprint, click the sections you would like to offset in the list above, and click the Offset Now button.

Total To Offset = 12.91 metric tons of CO_2 Offset Now

- Your footprint is 12.91 metric tons per year
- The average footprint for people in United States is 20.40 metric tons
- The average for the industrial nations is about 11 metric tons
- The average worldwide carbon footprint is about 4 metric tons
- The worldwide target to combat climate change is 2 metric tons

Easy Strategies

Strategy	Up front cost	Savings per year
(1) Use space heaters to heat only the rooms you're in (rather than a central system that heats the whole house), and turning off the heat when you're not home.	$80	**$1023**
(2) Use ceiling fans instead of the air conditioner	$100 if you don't already have ceiling fans	**$438**
(3) Turn off lights you're not using	$0	**$274**
(4) Use a clothesline or a laundry rack instead of a dryer	$20	**$196**
(5) Sleep your computer when you're not using it	$0	**$178**
(6) Wash laundry in cold water instead of hot or warm	none	**$152**
(7) Turn off a single 100-watt light bulb, from running constantly	$0	**$131**
(8) Replace ten 60-watt light bulbs with compact fluorescents	$32	**$123**
Total	**$232** ***once***	**$2515** ***every year***

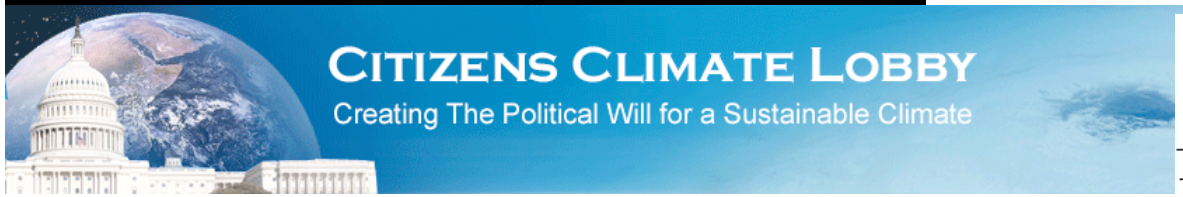
Aggressive Strategies

(9) Replace top-loading washer with front-loading washer	$500	**$99**
(10) Replace 1992 fridge with newer, Energy Star model	$440	**$75**
Total	**$800** ***once***	**$177** ***every year***

Assumptions: (Calculations are always only as good as the assumptions. See how to misquote this website.)

Political will is a RENEWABLE RESOURCE

- Write letters to the editor
- Speak out to elected officials
- Talk to neighbors and friends
- Vote and participate in campaigns
- Find solutions



OPINION

PUBLISHED BY 2 A.M. January 25, 2007

It's Our Choice

"We are not victims of unfortunate physics. Neither physical nor economic laws require that we lock ourselves up in buildings that don't breathe, or that we fill our surroundings with chemicals that poison our bodies, or that we be made to use tools that hurt us physically. Those outcomes are dictated not by laws of nature, but by our failure to remember a cardinal principle of design: products do what you ask of them."

William McDonough, *Cradle to Cradle*

Policy-makers respond to business

- Businesses want your money and your loyalty
- Speak to companies and tell them what matters.
- Become informed about companies climate action (ClimateCounts.org; GoodGuide.com)

GoodGuide.com

Comparing companies on their commitment to tackling global warming

You can use the **Climate Counts Company Scorecard** to see how serious companies are about stopping climate change - and how they compare to their sector competitors. The annually updated scorecard reflects the self-reported efforts of companies to address climate change - or avoid it altogether.

The higher the score, the greater the company's commitment to fighting global warming.

Sector	
Airlines	Apparel/Accessories
Beverages-Beer	Commercial Banking
Consumer Shipping	Electronics
Food Products	Food Services
Home and Office Furniture	Hotels
Household Products	Industry Innovators
Internet/Software	Large Appliances
Media	Pharmaceuticals
Toys & Children's Equipment	

ClimateCounts.org

What will you do?

Climate Action Plan

At Home

List 2 things you WILL do in the next week to reduce your carbon footprint at home.

1.

2.

In my community

Name 2 steps you will take by the end of February to help your community reduce its footprint. This could be someone you speak to, writing a letter to a local news outlet or website, speaking to businesses about their practices, etc.

1.

2.

On a grander scale

List two ways you will make your voice heard at the national or global level. This could be contacting major corporations, getting involved in political campaigns, changing your buying habits based on product impacts and corporate reputations, changing your travel habits, etc.

1.

2.

Your Climate Action Plan

Assess and reduce your footprint

Work with others to capture benefits at local level

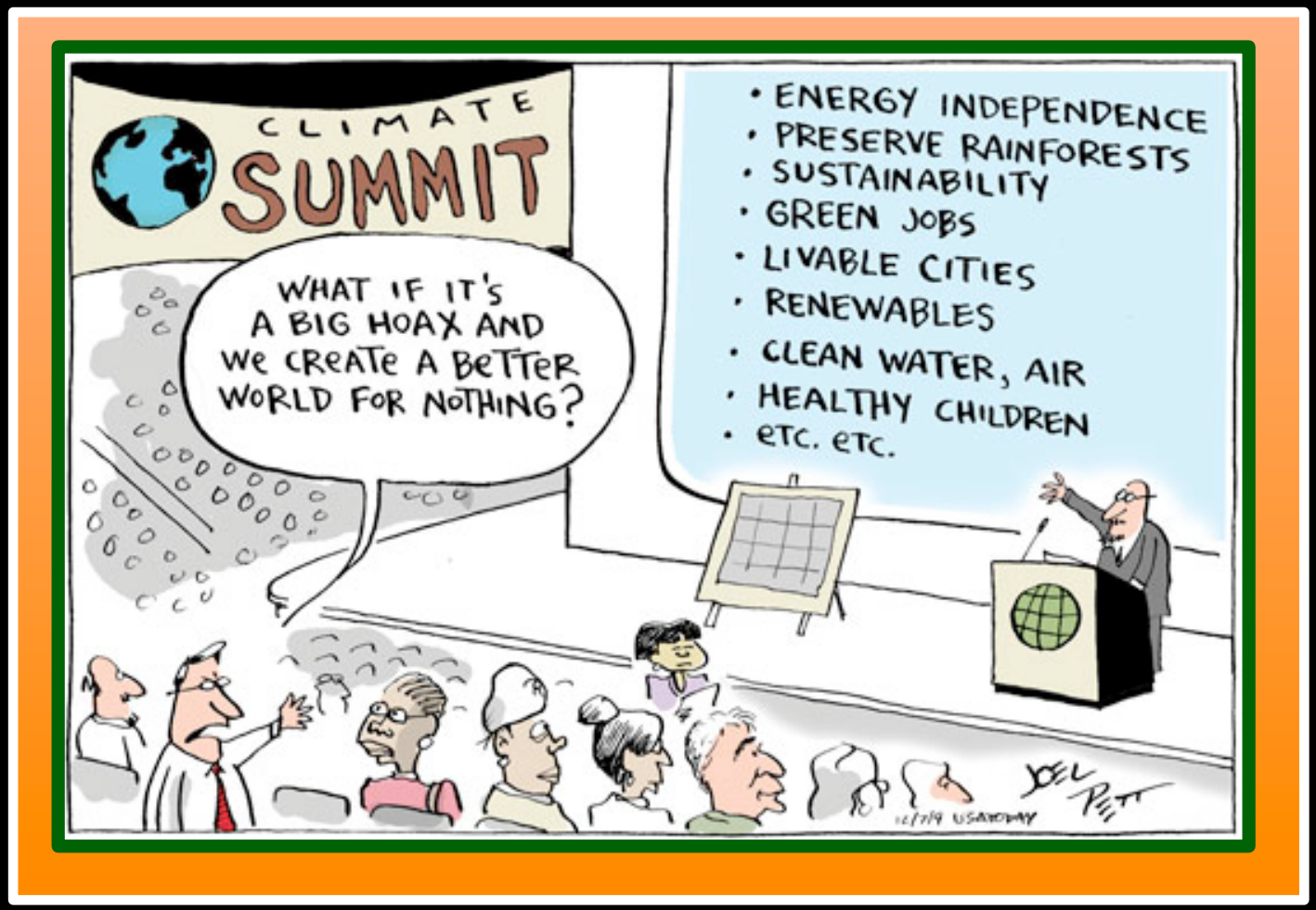
Speak out, write letters, and vote

Come to the iMatter March, Mother's Day 2011

Imagine The World Ahead

- A car that can cross the nation on a tank of fuel
- A home electric/heating bill of $12 dollars per month
- Solar computers and phones
- Traffic-free rush hours
- U.S. as a leader in the fastest part of the world economy

- No more “Code Red” air quality days
- Energy security – freedom from the Middle East
- Carbon credit stocks in the 401(k)
- Cure the nationwide juvenile asthma epidemic
- Abundant wildlife
- What else?


CLIMATE
SUMMIT
WHAT IF IT'S A BIG HOAX AND WE CREATE A BETTER WORLD FOR NOTHING?
• ENERGY INDEPENDENCE
• PRESERVE RAINFORESTS
• SUSTAINABILITY
• GREEN JOBS
• LIVABLE CITIES
• RENEWABLES
• CLEAN WATER, AIR
• HEALTHY CHILDREN
• ETC. ETC.
12/7/19 USATODAY
JOEL PETT

Sustainability: Living as if the future matters

It matters!