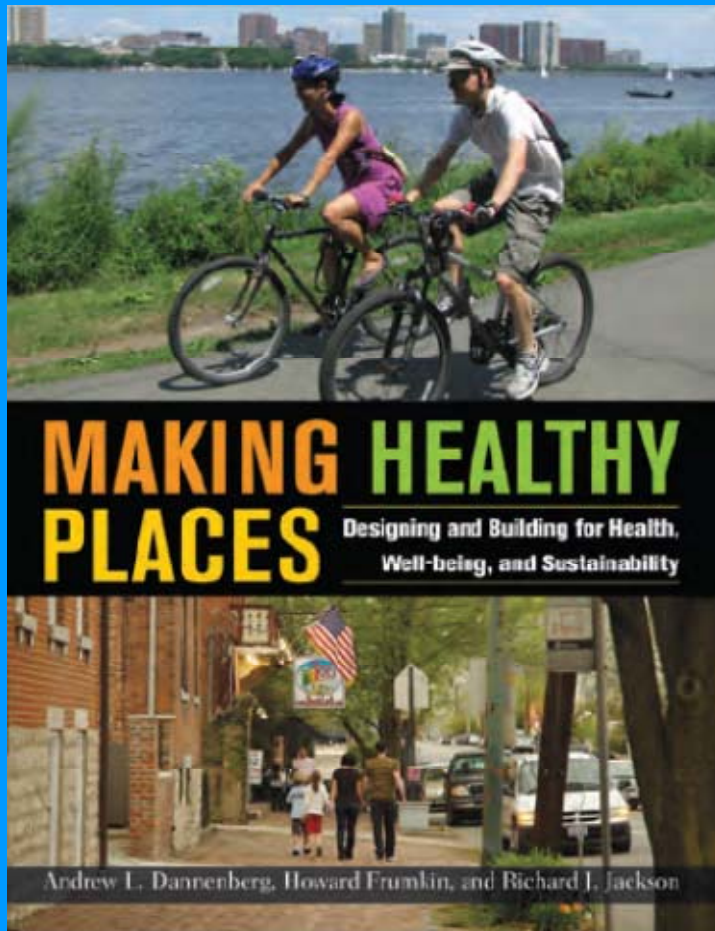


To Adapt to Climate Change, Public Health must Have a Central Role

May 16, 2012 Webinar



DESIGNING HEALTHY COMMUNITIES



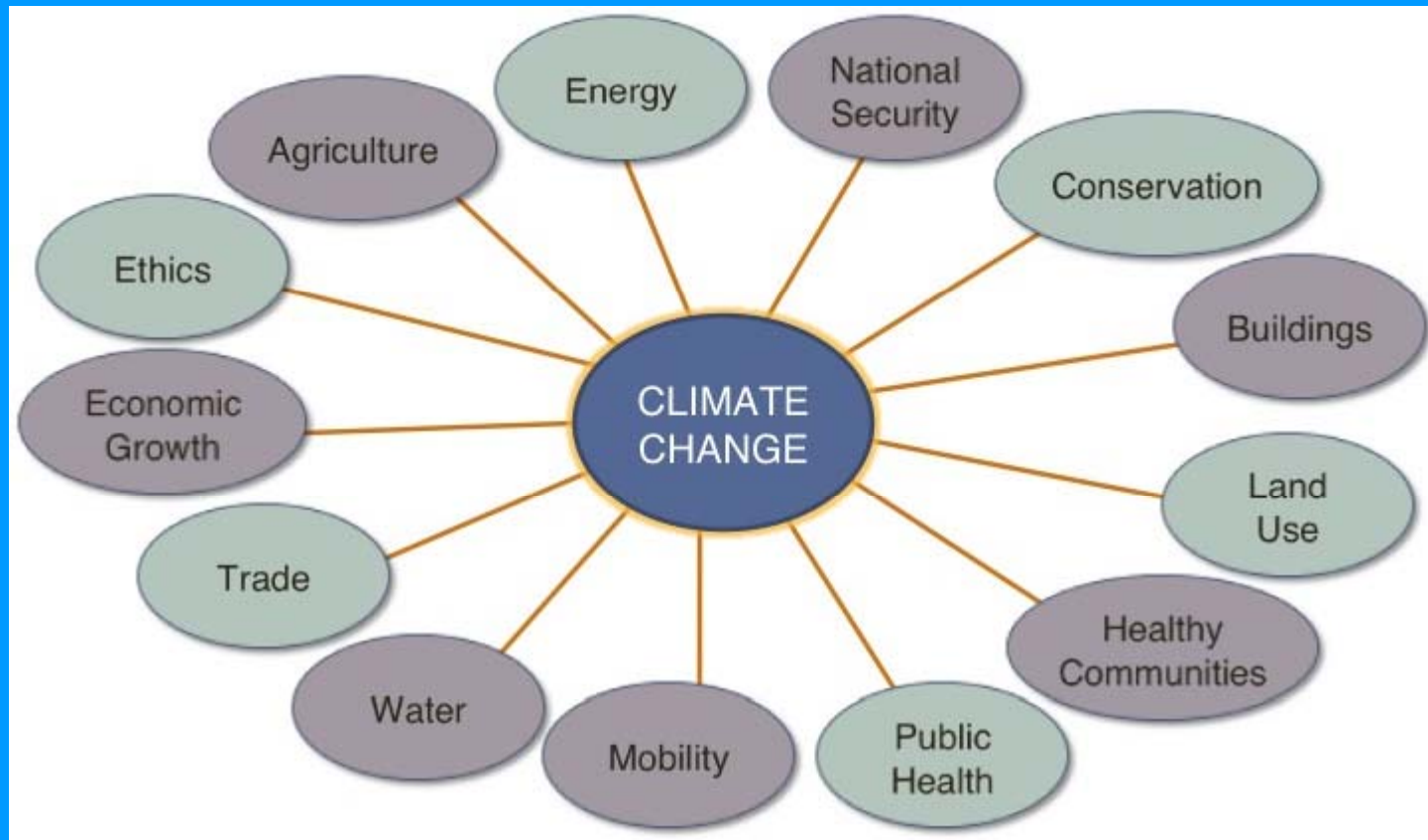
RICHARD J. JACKSON WITH STACY SINCLAIR

Richard J Jackson MD MPH

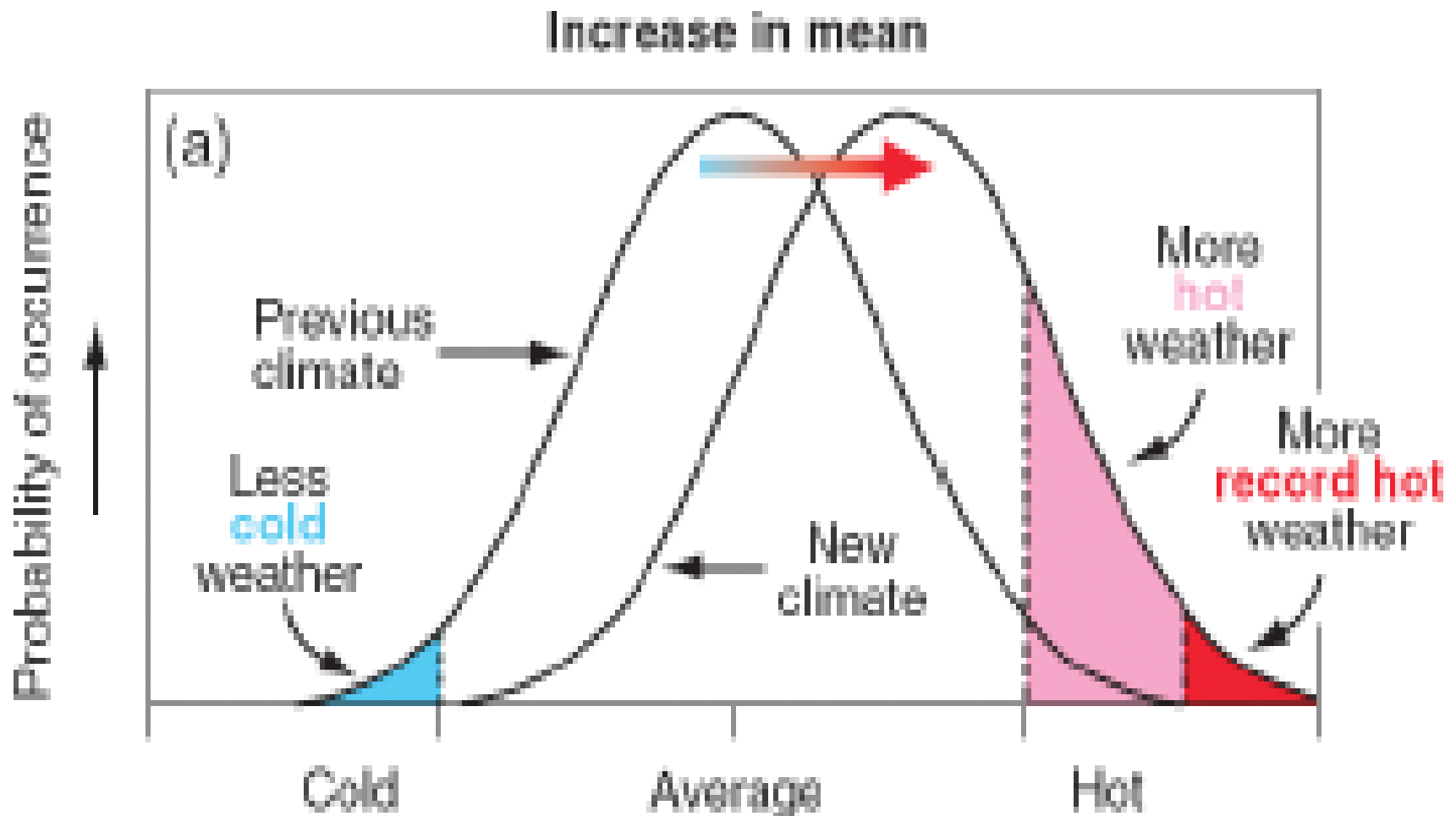
UCLA Fielding School of Public Health

dickjackson@ph.ucla.edu

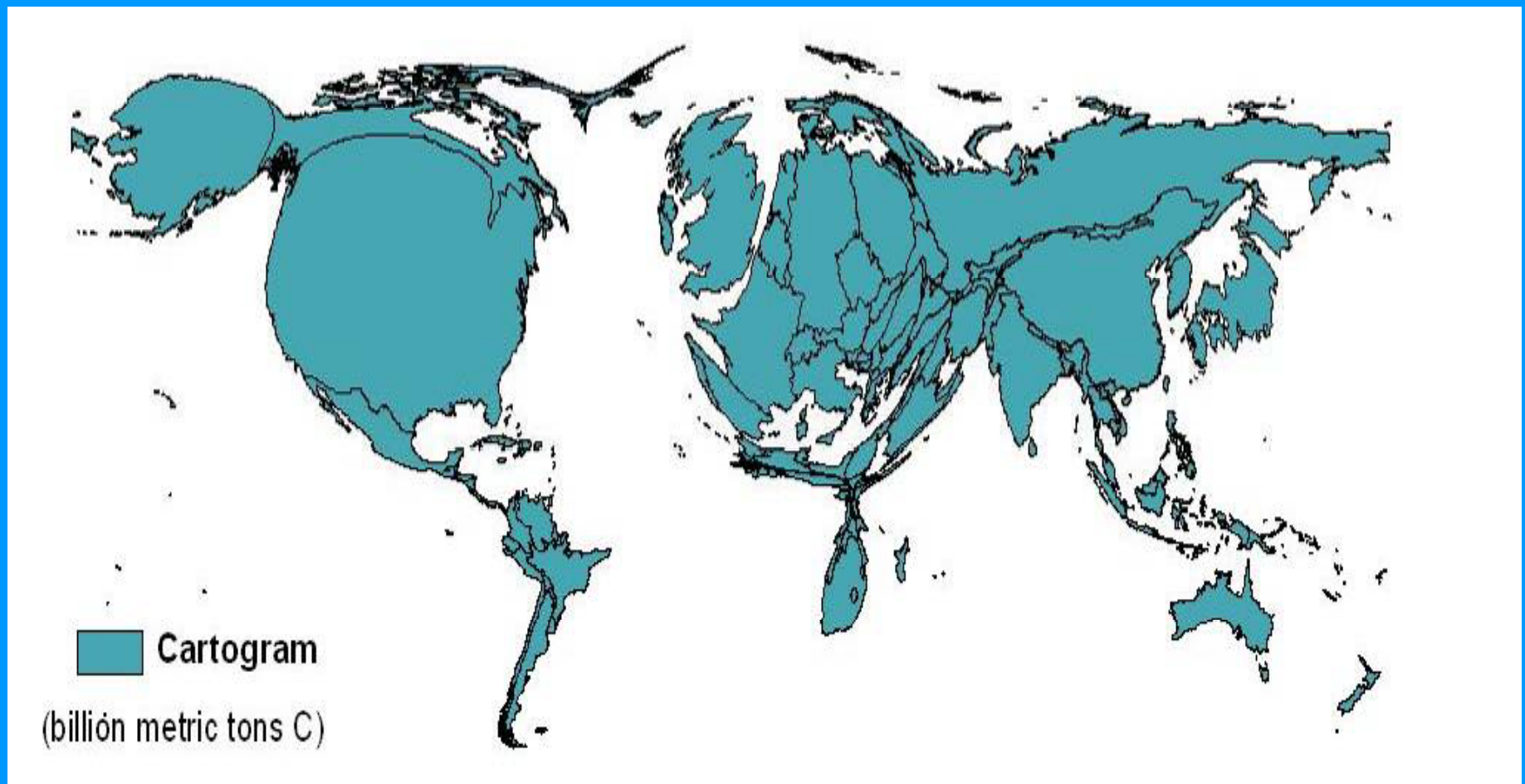
The 20th Century Is Over
We are failing at mitigation,
We must succeed at adaptation



Increased Average Temperatures Alter the Distribution of Weather Events



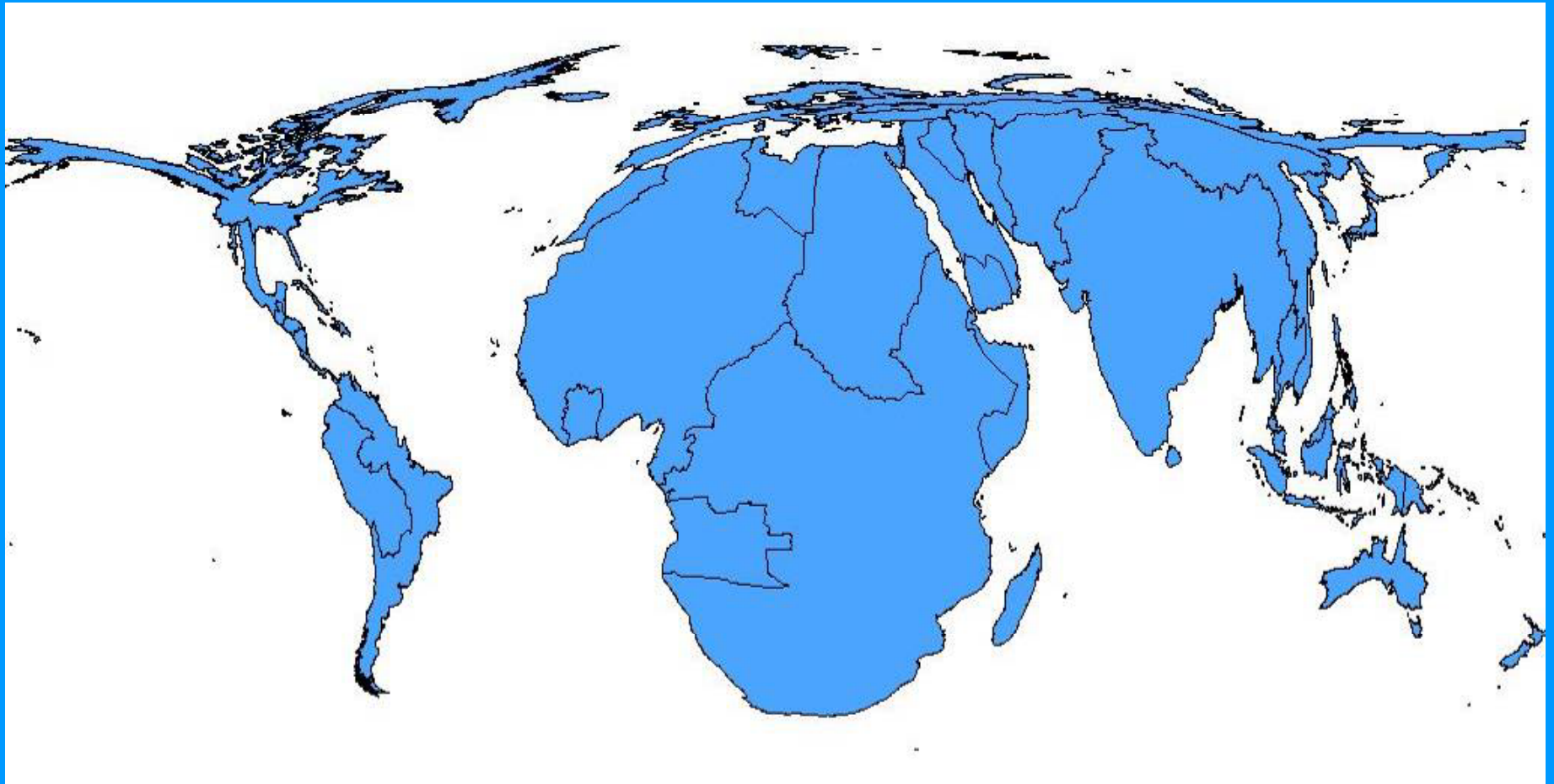
CUMULATIVE greenhouse emissions in 2002, by country
Density-equalizing cartogram;
WHO region size proportional to mortality



Jonathan Patz,
University of Wisconsin

Climate-related mortality (per 10^6 population), 2000

Density-equalizing cartogram; WHO region size proportional to mortality



Jonathan Patz

University of Wisconsin



SecurityAndClimate.cna.org

**NATIONAL SECURITY
AND THE THREAT OF
CLIMATE CHANGE**

GENERAL GORDON R. SULLIVAN, USA (Ret.)

*Former Chief of Staff, U.S. Army
Chairman, Military Advisory Board*

ADMIRAL FRANK "SKIP" BOWMAN, USN (Ret.)

*Former Director, Naval Nuclear Propulsion Program;
Former Deputy Administrator-Naval Reactors, National Nuclear Security Administration*

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*Former President, National Defense University; Former Chief of Naval Research and Commander,
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Former Deputy Commander, Headquarters U.S. European Command (USEUCOM)

GENERAL ANTHONY C. "TONY" ZINNI, USMC (Ret.)

Former Commander-in-Chief of U.S. Central Command (CENTCOM)

SHERRI W. GOODMAN

*Executive Director, Military Advisory Board
The CNA Corporation*

Survivalist Thinking Is Big Business

◀ home | grocery & floral | emergency kits & supplies

Grocery & Floral - Emergency Kits & Supplies

Refine By:

Categories

Grocery & Floral

▼ Emergency Kits & Supplies

Beans & Legumes (5)

Shop All Emergency Food (58)

Emergency Kits (19)

Entrees (8)

Flour, Sugar & Salt (4)

Fruits & Vegetables (11)

Grains, Cereals, Seeds & Sprouts (9)

Meat, Dairy & Eggs (14)

Water Barrels, Storage & Filtration (10)

Brand

Augason Farms (8)

Chef's Banquet (4)

Food For Health (5)

Food For Health™ (4)

Gamma2 (2)

Mountain House® (5)

Top Sellers in Emergency Kits & Supplies



[330 Total Servings of Emergency Food Storage ARK 1 Month Supply By Chefs Banquet](#)
\$84.99
After \$15 OFF



[320 Total Servings of Dried Vegetable Variety Emergency Food Pail By Chef's Banquet](#)
\$89.99
After \$20 OFF



[300 Total Servings of Freeze-Dried Fruit Variety Pail Emergency Food Kit By Chef's Banquet](#)
\$129.99



[288 Total Servings of Deluxe Meat Variety Pack By Shelf Reliance® THRIVE™](#)
\$199.99

Featured Categories



Shop All Emergency Food

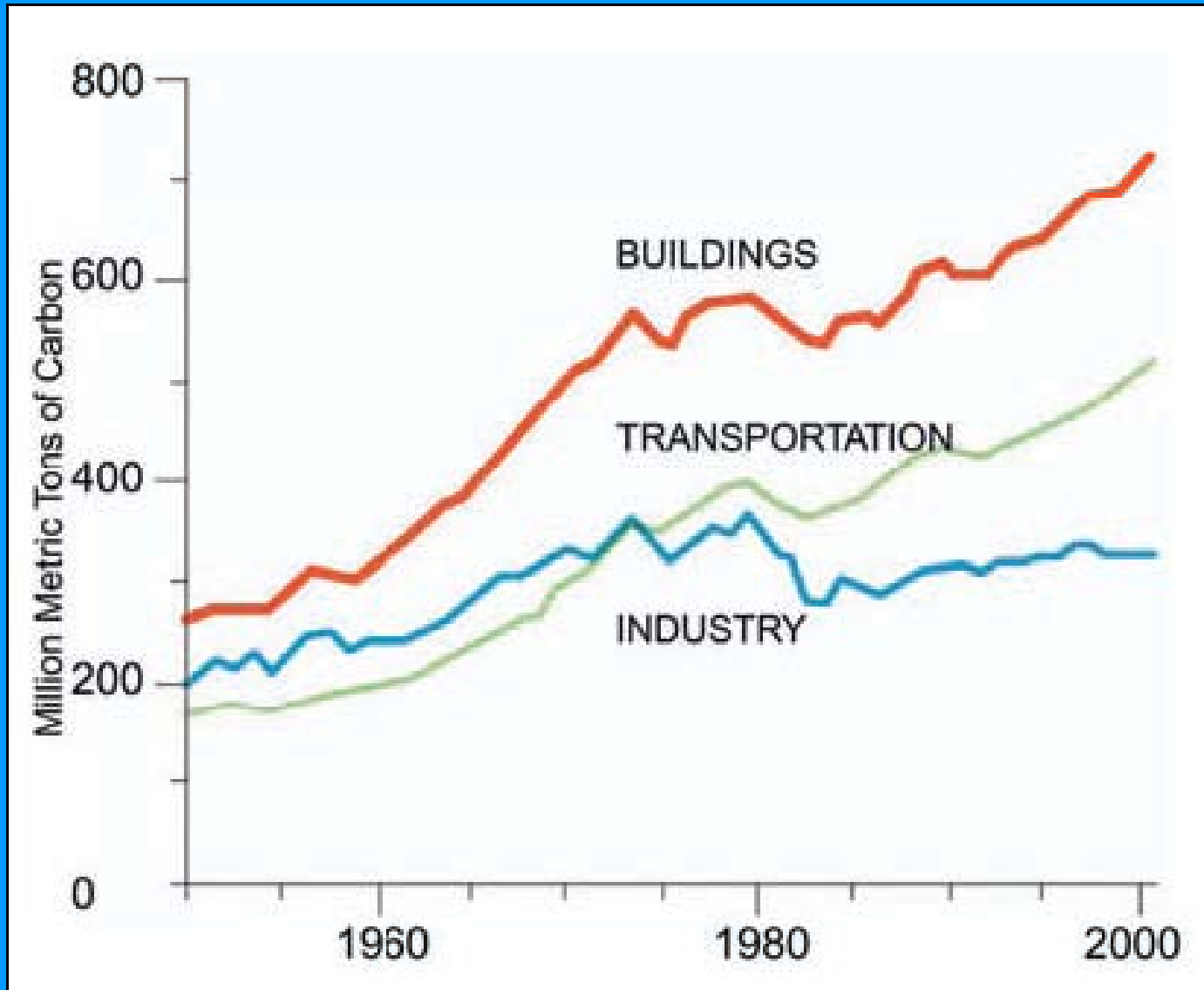


Bulk Food



Water Barrels, Storage & Filtration

US CO₂ Emissions by Sector



U.S. Energy Information Administration statistics

Co-benefits of climate action— Thoughts for Public Health Practice

- Waste is generational child abuse
- So is releasing methane to the atmosphere or Flaring it rather than capturing.
 - Eliminate Inefficiencies
 - Need to monitor
 - Need to regulate
 - Need to tax.
 - Need to have the funds used for those most impacted

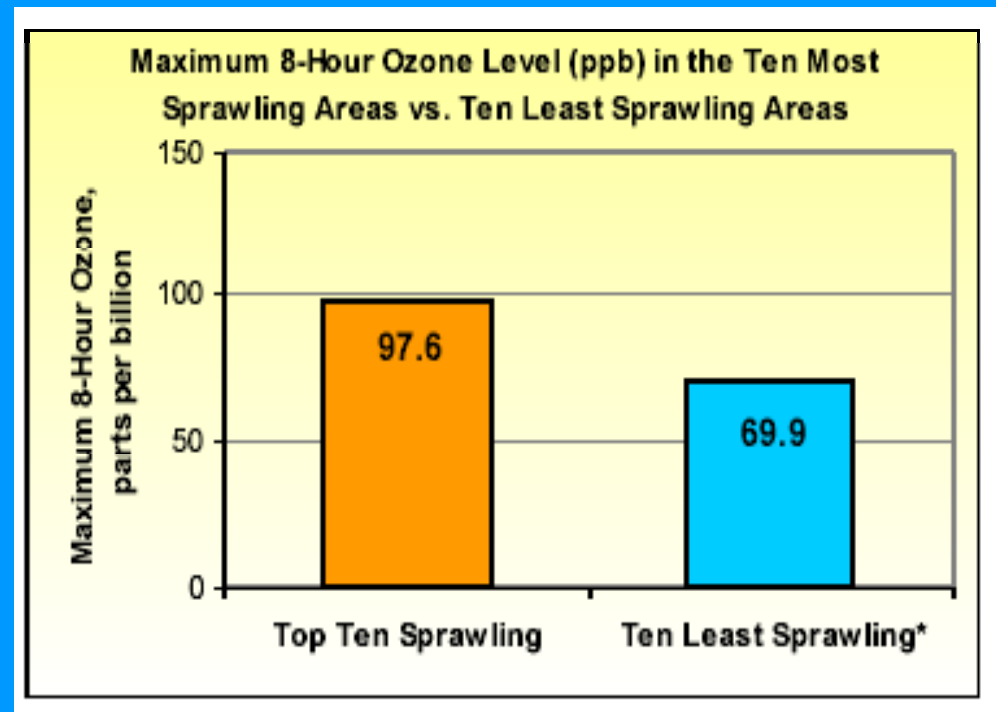


What is the
most resilient
and efficient
housing?



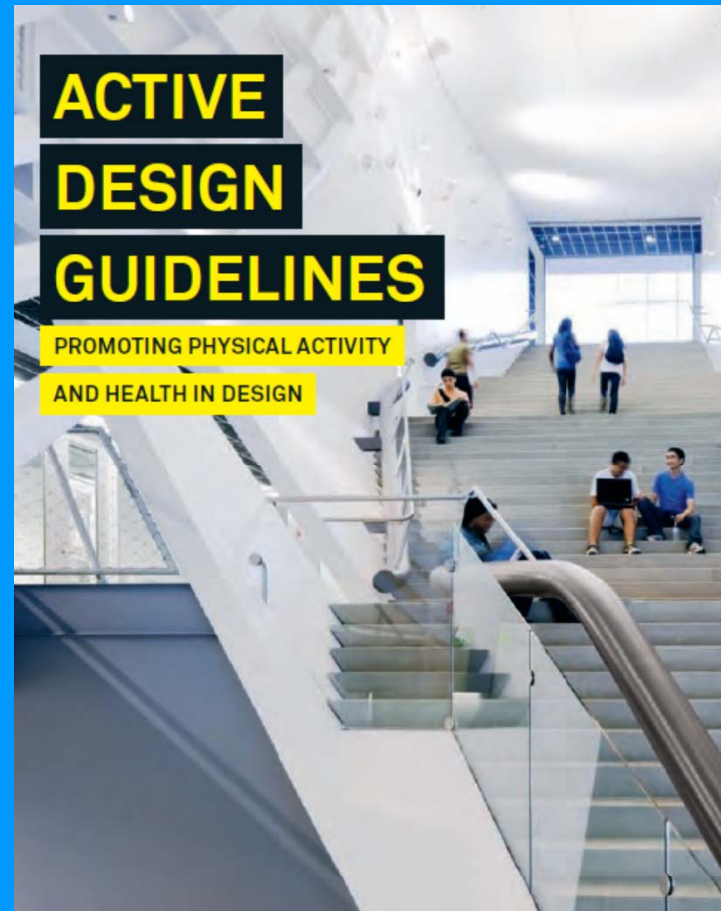
Compact Development

- More energy efficient
- Preserve farmland
- Supports transit
- Lower overall air pollution



A Public Health Intervention

- Energy Efficient Buildings
- Healthy Bldgs
- Resilient Bldgs
- Smart zoning and locations



Importance of Saving Farmland

FARMING ON THE EDGE Sprawling Development Threatens America's Best Farmland California



Legend:

- High-Quality Farmland & High Development
- High-Quality Farmland & Low Development
- Federal & Indian Lands
- Urban Areas
- Other Lands

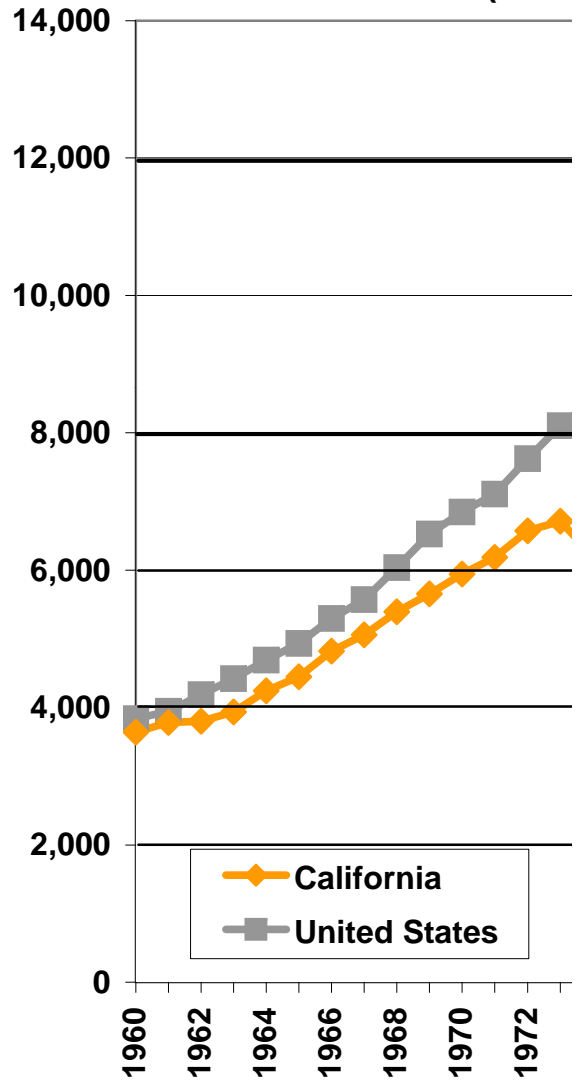


American Farmland Trust

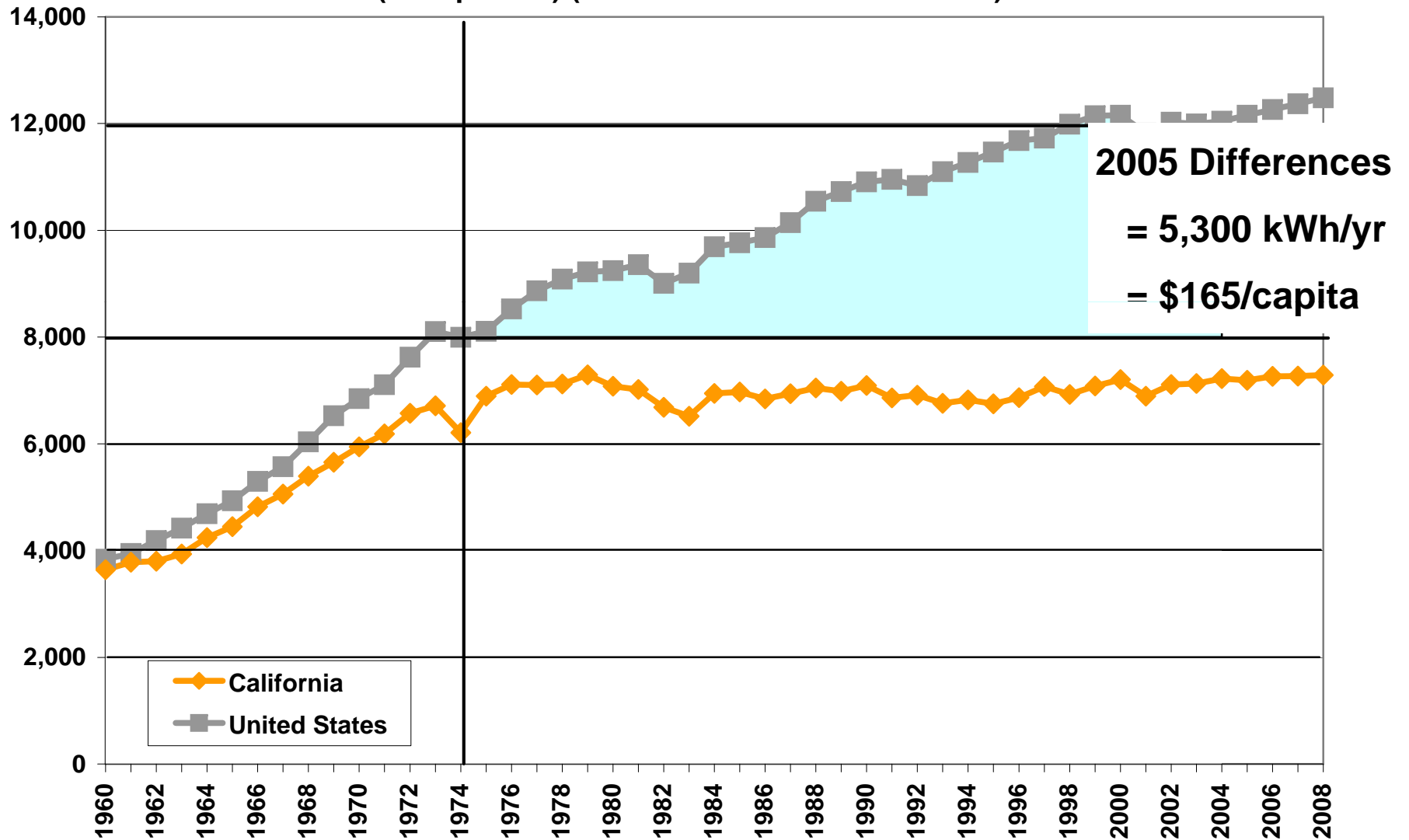
Public Health Must Support Resource Conservation– Not merely an environmental issue

- Consumption control
 - Recycling
 - e.g. State where redemption deposits are in place, 90% of cans and bottles are recycled
 - Where no law (often strongly opposed by bottling companies) ~50%
- Don't waste water or electricity
 - (in California and many states they are nearly the same)

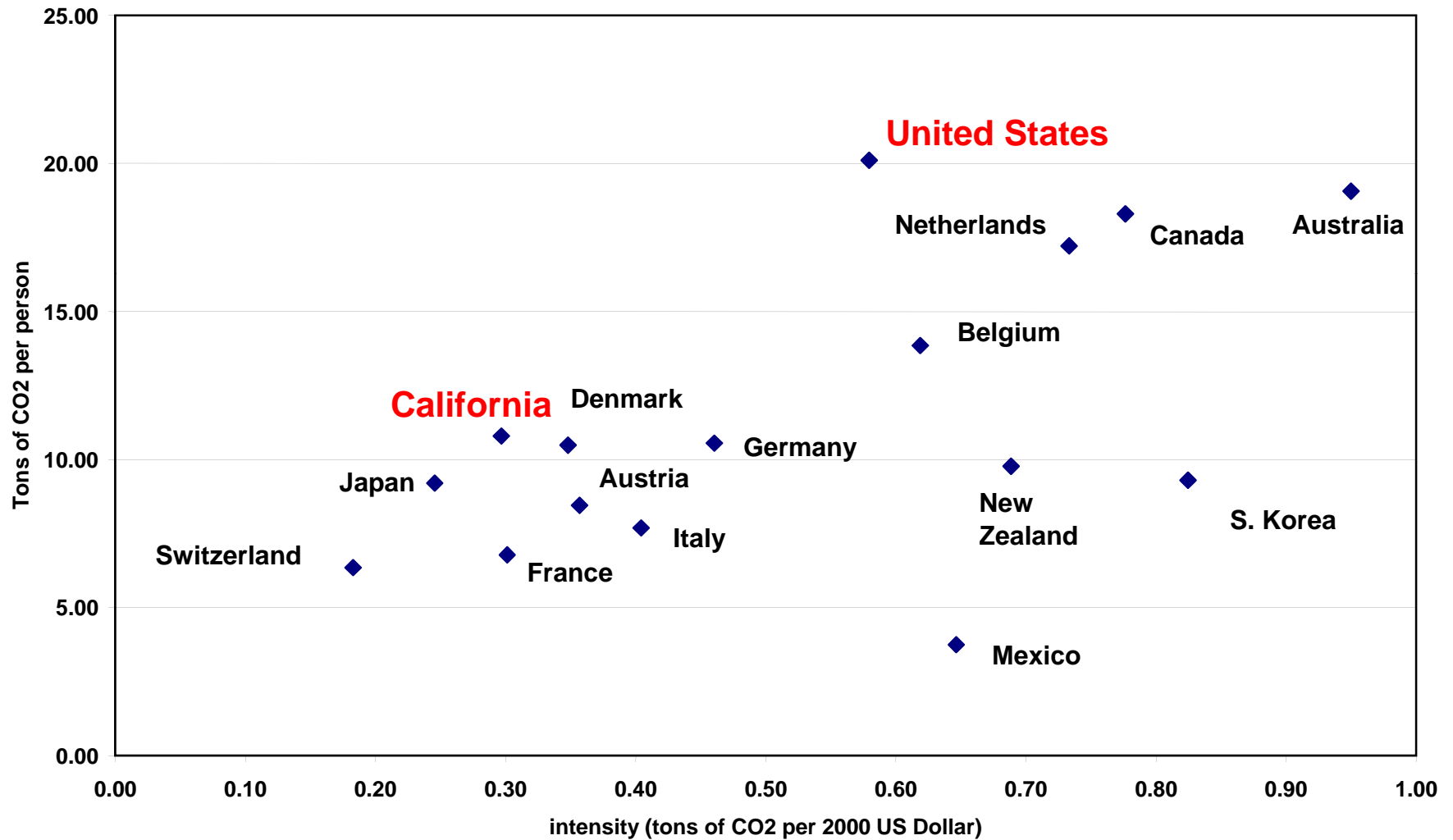
**Per Capita
(kWh)**



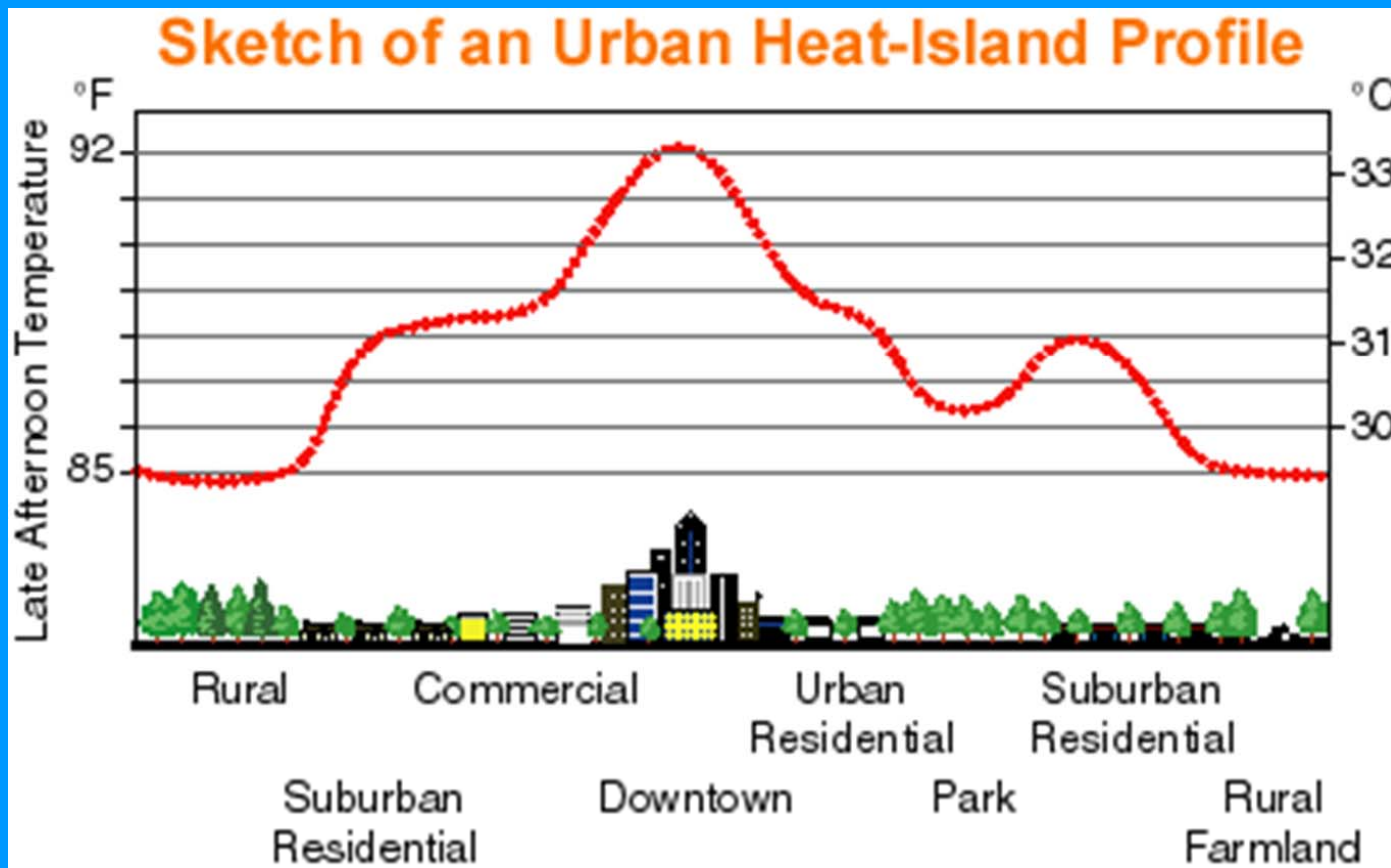
Per Capita Electricity Sales (not including self-generation)
(kWh/person) (2005 to 2008 are forecast data)



Carbon Dioxide Intensity and Per Capita CO2 Emissions -- 2001
(Fossil Fuel Combustion Only)



What is the best way to cool an urban area?



Built Environment

Volume 33, Number 1

Published by Ashgate Press and edited by Peter Hall and David Bannister

Climate Change and Cities

GUEST EDITOR: DARRYN McEVROY

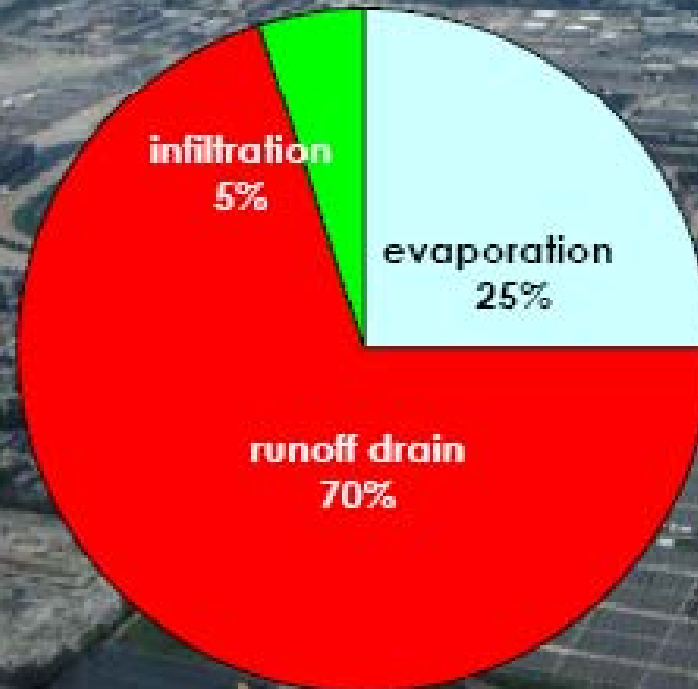
10% increase in
urban parks = 4°F
decrease in urban
surface
temperature



Adapting Cities for Climate Change: The Role of the Green Infrastructure

NE. GILL, J.F. HANDLEY, A.R. ENNIS, and S. DALLET

Reduce runoff from Urban Regions: Germany taxes runoff



What is the best way and where is the best place to generate electricity?



Every Roof should be fully covered with Photovoltaic Panels– With “Net Metering”



A 743 kilo-watt Solar System in City of Industry.

- What is the best way to change a culture? Public Health has critical experience.
 - Community participation
 - Engagement
 - Cost benefits
 - Incentives/disincentives

- Tax what hurts the population, especially children.

Likely Results of a Sugar Sweetened Beverage (SSB) Tax

- “A national tax of 1 cent per ounce on sugar-sweetened beverages (SSBs) would decrease consumption by 23% and raise \$14.9 billion in the first year alone.”



- Educate future leaders...the shelf life of human beings is short.

- Social and Economic Justice is Embedded in Public Health's Response to Climate Change.
- The US is Near the bottom in Social Justice of Developed Countries

Bottom of the Heap

Selected measures from the report "Social Justice in the OECD – How Do the Member States Compare?" Includes some categories of index ratings and some raw data.



Ratings are weighted and on a scale of 1 (lowest) to 10 (highest).

Inter-generational justice rating includes family and pension policies, environmental policies and assessment of political-economic being established for future generations.

	Overall social justice rating	Overall poverty prevention rating	Overall poverty rate	Child poverty rate	Senior citizen poverty rate	Income inequality (Gini index) Higher numbers represent more income inequality	Pre-primary education Public expenditure on pre-primary education as a percentage of GDP	Health rating (inclusiveness, quality of service, and perceived health between highest/lowest incomes)	
Iceland	8.73	9.07	6.4 %	6.7 %	6.7 %	0.301	0.759%	8.50	7.18
Norway	8.51	8.87	7.8	5.5	8.0	0.250	0.42	7.30	8.50
Denmark	8.20	9.16	6.1	3.7	12.3	0.248	0.60	7.50	8.70
Sweden	8.18	8.43	8.4	7.0	9.9	0.259	0.67	7.87	9.00
Finland	8.00	8.50	8.0	5.2	13.0	0.259	0.58	7.17	8.01
Netherlands	7.72	8.88	7.2	9.6	1.7	0.294	0.38	7.08	6.82
Switzerland	7.44	7.39	9.3	9.4	17.6	0.303	0.19	6.03	7.55
Luxembourg	7.27	8.35	8.5	11.0	2.7	0.288	0.45	7.89	7.01
Canada	7.26	7.00	12.0	14.8	4.9	0.394	0.20	7.63	6.00
France	7.25	8.66	7.2	9.3	5.3	0.283	0.63	7.67	7.17
Czech Republic	7.17	9.18	5.6	9.6	3.6	0.256	0.42	5.84	6.97
New Zealand	7.14	6.27	11.0	12.2	23.5	0.330	0.45	6.18	6.98
Austria	7.13	8.49	7.9	7.2	9.9	0.261	0.45	6.87	7.11
Germany	7.03	8.12	8.9	8.3	10.3	0.285	0.40	6.63	6.87
Britain	6.79	6.92	11.0	13.2	12.2	0.345	0.38	6.77	6.95
Belgium	6.73	7.56	9.4	10.0	13.5	0.289	0.59	7.95	6.10
Hungary	6.41	9.14	6.4	7.2	4.7	0.272	0.69	5.08	6.04
Ireland	6.41	7.51	9.1	11.0	13.4	0.293	0.003	7.00	6.06
Italy	6.29	6.78	11.4	15.2	8.9	0.337	0.49	7.45	5.12
Poland	6.17	7.15	11.2	13.5	7.7	0.305	0.57	5.04	5.33
Australia	6.14	4.24	14.6	14.0	39.2	0.336	0.04	7.60	6.29
Japan	6.00	5.21	15.7	14.3	21.7	0.359	0.09	7.66	4.95
Portugal	5.97	5.77	12.6	16.7	15.2	0.353	0.37	5.86	5.60
Slovenia	5.86	8.33	7.2	10.7	7.2	0.257	0.37	5.04	5.24
South Korea	5.88	4.26	15.6	10.3	45.1	0.315	0.09	7.18	5.72
Spain	5.83	5.30	14.0	17.2	20.8	0.317	0.63	7.35	5.77
United States	5.70	3.85	17.3	21.6	29.2	0.378	0.33	6.23	5.95
Greece	5.37	6.24	10.8	13.2	22.7	0.307	0.11	6.61	3.47
Chile	5.20	3.30	18.4	24.0	22.8	0.484	0.59	5.65	5.92
Mexico	4.75	2.11	21.0	25.8	29.0	0.475	0.59	3.51	5.34
Turkey	4.19	4.26	17.0	23.5	13.7	0.409	0.62	3.79	5.05

Source: Bertelsmann Stiftung

- Social Justice in the OECD– How do member countries compare?
- US is in the bottom 5 including for:
- Overall Social Justice
- Childhood Poverty Rate
- Income Inequality



Public Health
Must Support
More Energy-
efficient, Lower-
polluting
Transportation.

Fleet mpg under new CAFE standards

	2016 base	2017	2018	2019	2020	2021	2022	2023	2024	2025
Passenger Cars	37.8	40.0	41.4	43.0	44.7	46.6	48.8	51.0	53.5	56.0
Light Trucks	28.8	29.4	30.0	30.6	31.2	33.3	34.9	36.6	38.5	40.3
Combined Cars & Trucks	34.1	35.3	36.4	37.5	38.8	40.9	42.9	45.0	47.3	49.6

Complete Streets Bring Equity to Community and Transportation

- Complete Streets
 - social equity, aesthetics, walking, improved local sales, community building



What is the most efficient vehicle?











Photo: Carlton Reid via Flickr, Art: Peter Drew

What is the most cost effective and safest way of moving large numbers of people long distances?

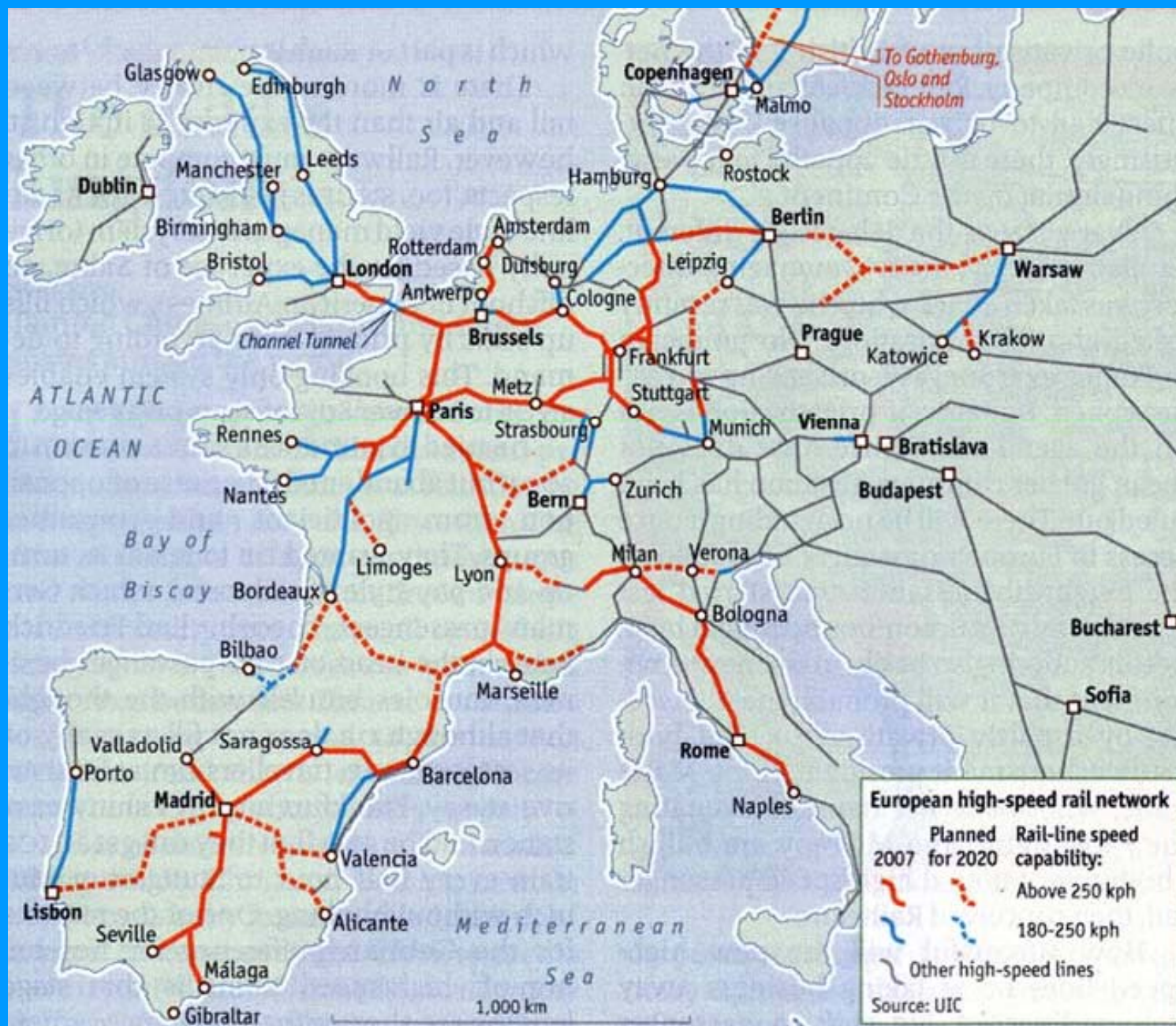




Tokaido Shinkansen -- Nearly 5 billion cumulative passenger trips

-  Tokaido Shinkansen
-  Sanyo Shinkansen
-  Tohoku Shinkansen
-  Yamagata Shinkansen
-  Akita Shinkansen
-  Joetsu Shinkansen
-  Nagano Shinkansen
-  Kyushu Shinkansen



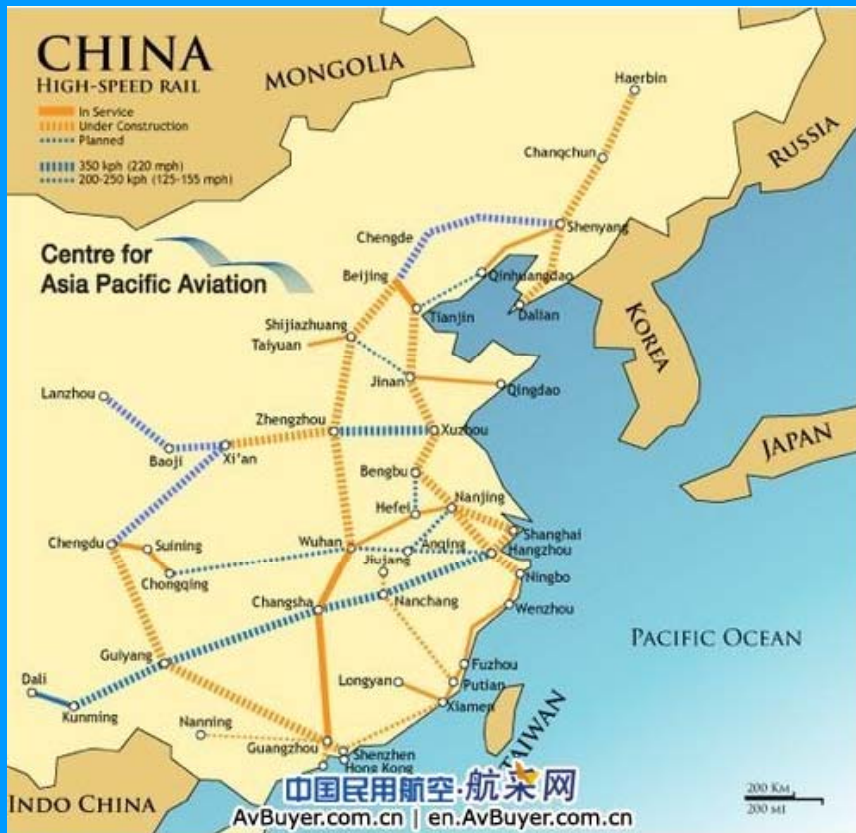


- Ten European countries have high-speed track
 - 4,700 miles in 2010
 - 9,300 miles by 2020
 - A tripling from 2007
 - Projected additional cost -- \$200 billion

- London to Paris 2.25 hours
- Madrid to Barcelona < 3 hours

High Speed Rail: CHINA

China has become the global leader in HSR and is looking to extend the network to Europe, the UK and Southeast Asia.



http://en.ce.cn/Industries/Transport/200909/28/t20090928_20114932.shtml

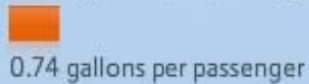
<http://www.avbuyer.com.cn/en/pictures/slideshow.asp?newsid=38715> <http://www.impactlab.net/2009/12/27/china-unveils-worlds-fastest-high-speed-t>

Los Angeles to San Francisco

Time (from city center to city center)



Fuel (in the equivalent of gallons of gasoline)



The Velaro is the world's fastest series produced train.

[→ learn more](#)



Siemens Corp Advertisement

Officials Reach California Deal to Cut Emissions



Rich Pedroncelli/Associated Press

Assembly Speaker Fabian Nunez, a Los Angeles Democrat, left, and the president pro tem of the state Senate, Don Perata of Oakland, during the announcement of the deal to limit greenhouse gas emissions.

By **FELICITY BARRINGER**

Published: August 31, 2006

SACRAMENTO, Aug. 30 — [California's](#) political leaders announced an agreement on Wednesday that imposes the most sweeping controls on carbon dioxide emissions in the nation, putting the state at the forefront

 E-MAIL

 PRINT

 SINGLE PAGE

 REPRINTS

Greenhouse Gas Reduction Act AB32

– California Legislature 2006

New York Times Aug 31, 2006

California SB 375

Reduce green house gas emissions from cars and light trucks through land use and housing actions.



Slide credit: Bill Craven

AB 32 Provoked Backlash Proposition 23 in 2010

Sponsored by 2 Texas Oil Companies

- Prop 23 asserted that AB 32 makes life more expensive and costs jobs.
- Lessons from Public Health Response to Proposition 23

June 2010

Co-benefits of climate action— Thoughts for Public Health Practice

- County HOs and pediatricians brought out the medical and nursing associations, as well as many hospital systems

blue of california

Blue Shield of California
An independent member of the Blue Shield Association

Kaiser Permanente thrive

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DEDICATED TO THE HEALTH OF ALL CHILDREN®
California Chapter DC

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CALIFORNIA THORACIC SOCIETY

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 SSVMS
SONOMA-SUTTER COUNTY MEDICAL SOCIETY



HOAC



phlp
public health law & policy



Prevention Institute
Putting prevention at the center of community well-being



COMMUNITY ACTION TO FIGHT ASTHMA



SONOMA COUNTY
Asthma Coalition



Asthma Coalition of Alameda County



SAN FRANCISCO
Asthma Task Force

 BREATHE CALIFORNIA

 **AMERICAN LUNG ASSOCIATION.**
Fighting for Air



No on 23 Ad




Click to play



No on 23 Ad



Click to play



So the Election Was Held: November, 2010

www.StopDirtyEnergyProp.com |

 **AMERICAN LUNG ASSOCIATION.**
Fighting for Air



Election Results

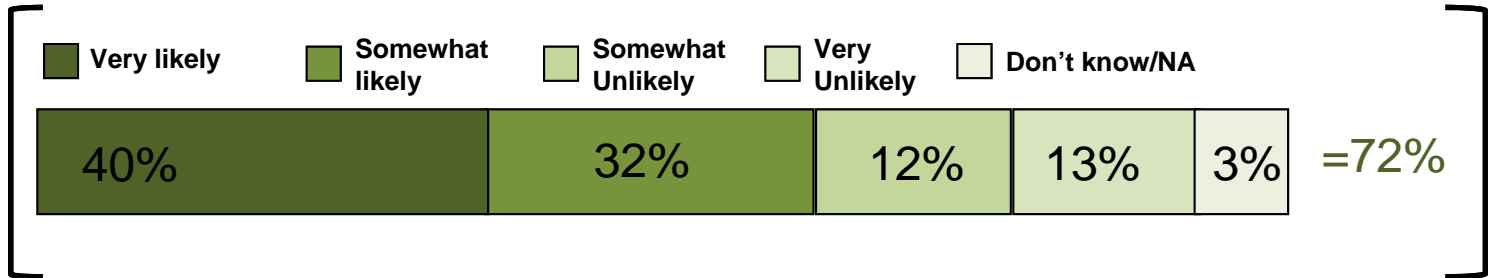
No on 23 got more votes than any other contest in the nation:

No on 23	4,827,348
Yes on 22	4,700,151
No on 19	4,382,140
Brown for Governor	4,368,921
Boxer for Senate	4,196,864
Texas Governor (Perry, R)	2,733,784
Florida U.S. Senate (Rubio, R)	2,615,262
New York Governor (Cuomo, D)	2,602,443



Voters believe AB 32 will have healthy results:

72% of voters polled believe AB 32 will likely result in healthier communities



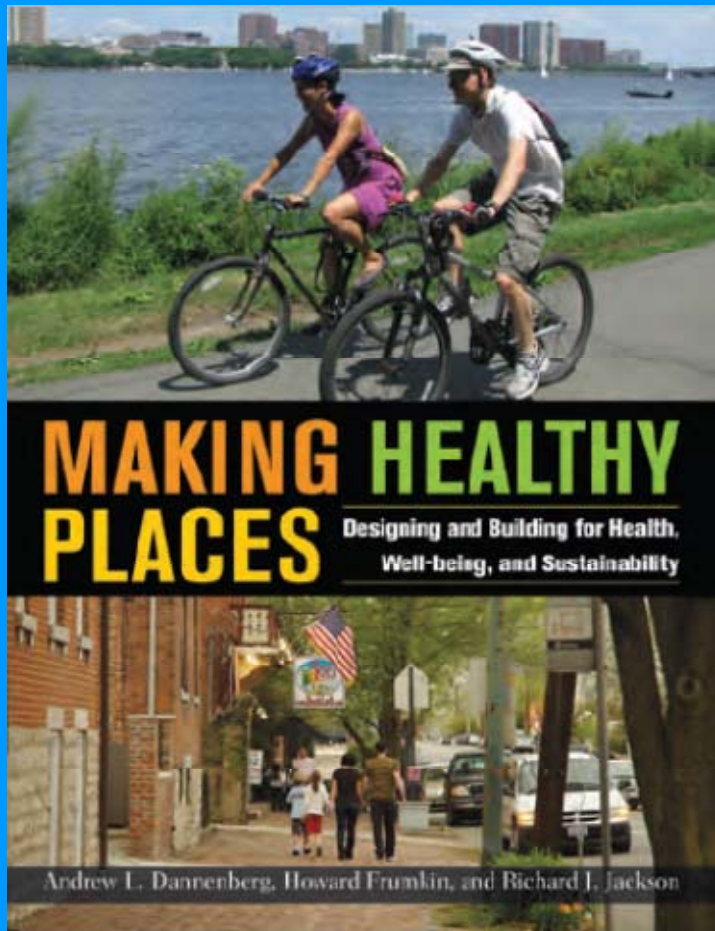
FROM: AB 32 Economic Impact Survey by Fairbank, Maslin, Maullin, Metz & Associated – FM3, March 30-April 1, 2010

Public Health Practitioners Must Adapt or Disappear.

- Lessons from California 2010 Proposition 23
 - Messengers:
 - Health and Medical advocates were the most influential. (much more than environmentalists)
 - Message: Carbon (CO₂, methane, particles) are air pollutants
 - Do not refer to as GHGs.
 - Audience:
 - Low income, particularly Latinos, were very concerned about air pollution and especially effects on children.

To Adapt to Climate Change, Public Health must Have a Central Role

May 16, 2012 Webinar



DESIGNING HEALTHY COMMUNITIES



RICHARD J. JACKSON WITH STACY SINCLAIR

Richard J Jackson MD MPH

UCLA Fielding School of Public Health

dickjackson@ph.ucla.edu