

Managing our Planet: First, We Need to Listen to It

Daniel Kammen

**Class of 1935 Distinguished Professor of Energy
Energy and Resources Group**

And

**Goldman School of Public Policy
University of California, Berkeley**

George Mason University, January 25, 2012



We Facing Two Energy Challenges

The two crises are equally pressing

Energy poverty

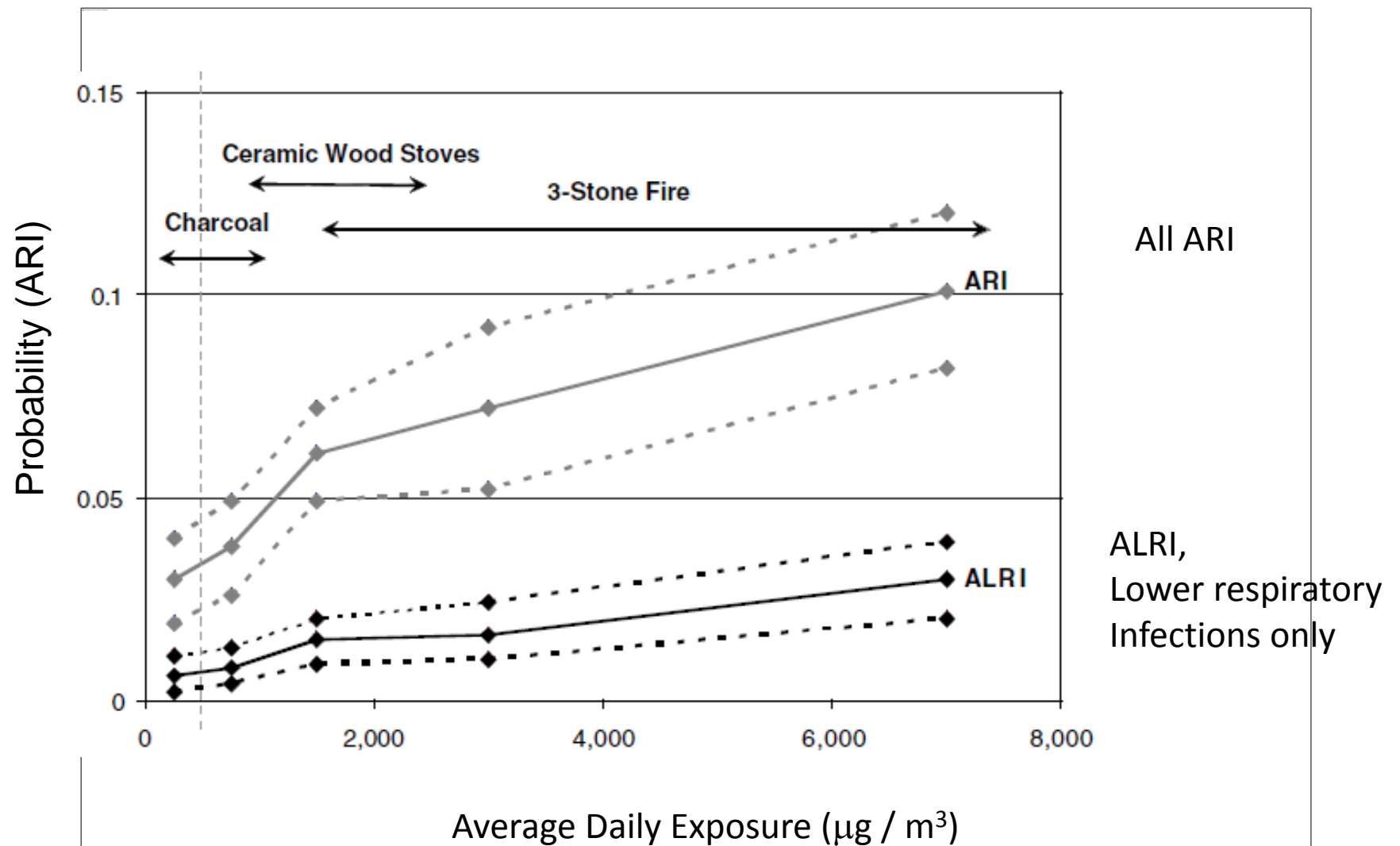
Environmental Change

We are failing
to address either fast enough (or at all)

Illness Reduction Observed in Kenya

(ARI = acute respiratory infection), Source: Ezzati & Kammen, *The Lancet*, 2001

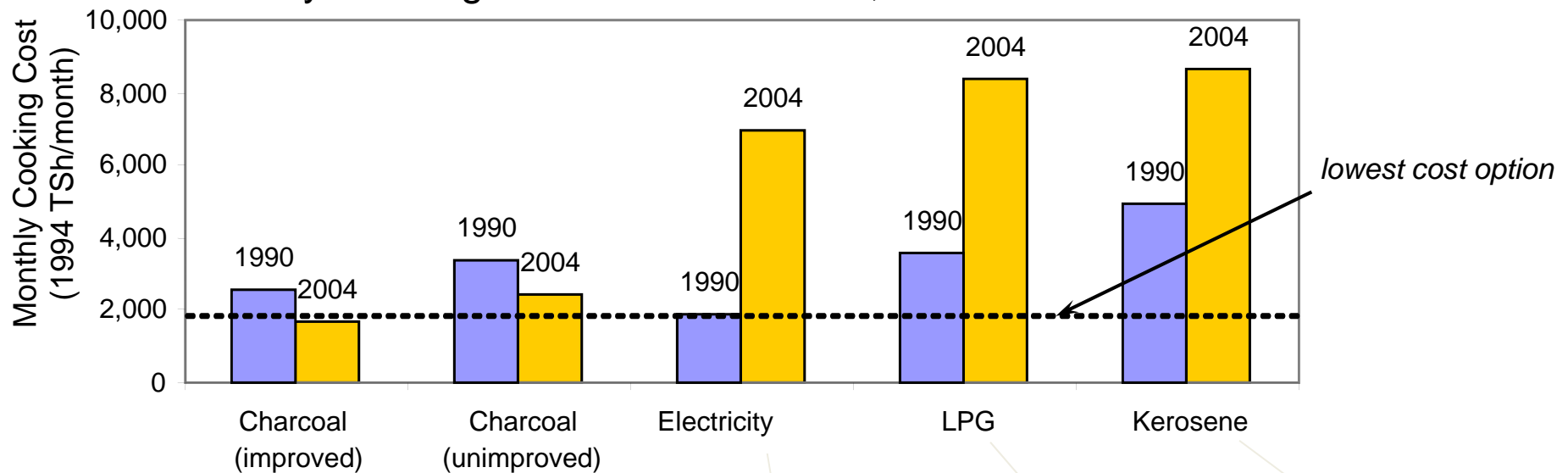
1.4B total DALYS: 10% of DALYS lost to ARI x 50% potential reduction



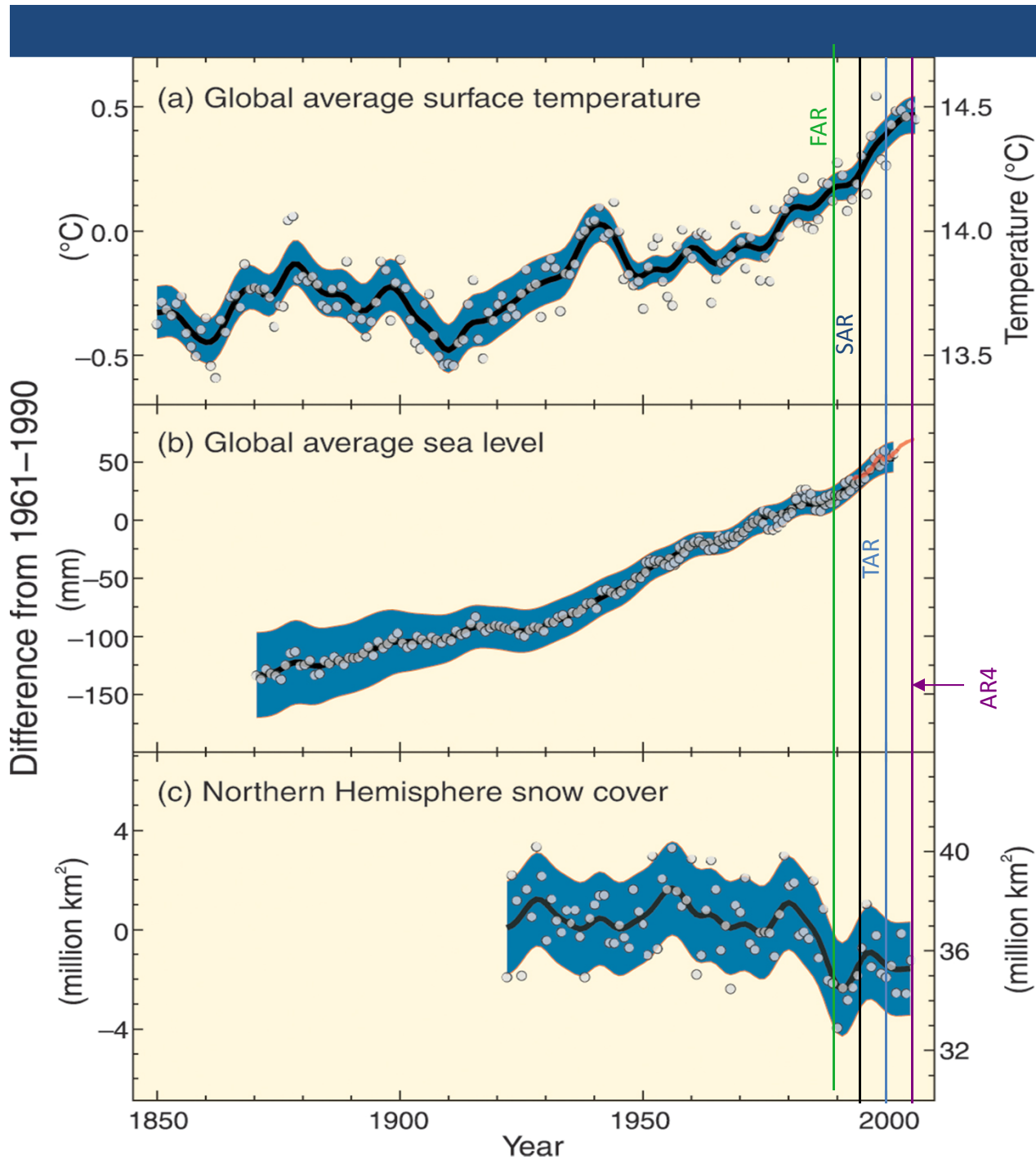
Example Unintended Consequence: Cooking and Utility Reform

Household least cost means of cooking: (1990) [pre-privatization of the utility]
(2004) [post-privatization]

Monthly Cooking Cost: Dar es Salaam, Tanzania: 1990 and 2004



Data Source: Hosier, R.H. and W. Kipondya, *Urban household energy use in Tanzania*. Energy Policy, 1993. May: p. 454-473. (1990)
Rebecca Ghanadan, PhD Candidate, Energy and Resources Group, University of California Berkeley, field research, (2004)



1st IPCC Assessment (1990):
FAR: unequivocal detection of
human impact not likely
for a decade

2nd (1995) SAR: balance of
evidence suggests
discernible human
influence

3rd (2001) TAR: most of the
warming in the last 50
years is likely (>66%) due
to human activities

4th (2007) AR4: most of the
warming very likely (>
90%) due human activity

4th (2007): warming will
most strongly and quickly
impact the global poor

SRREN (2011): 80% clean
by 2050 possible, if ...

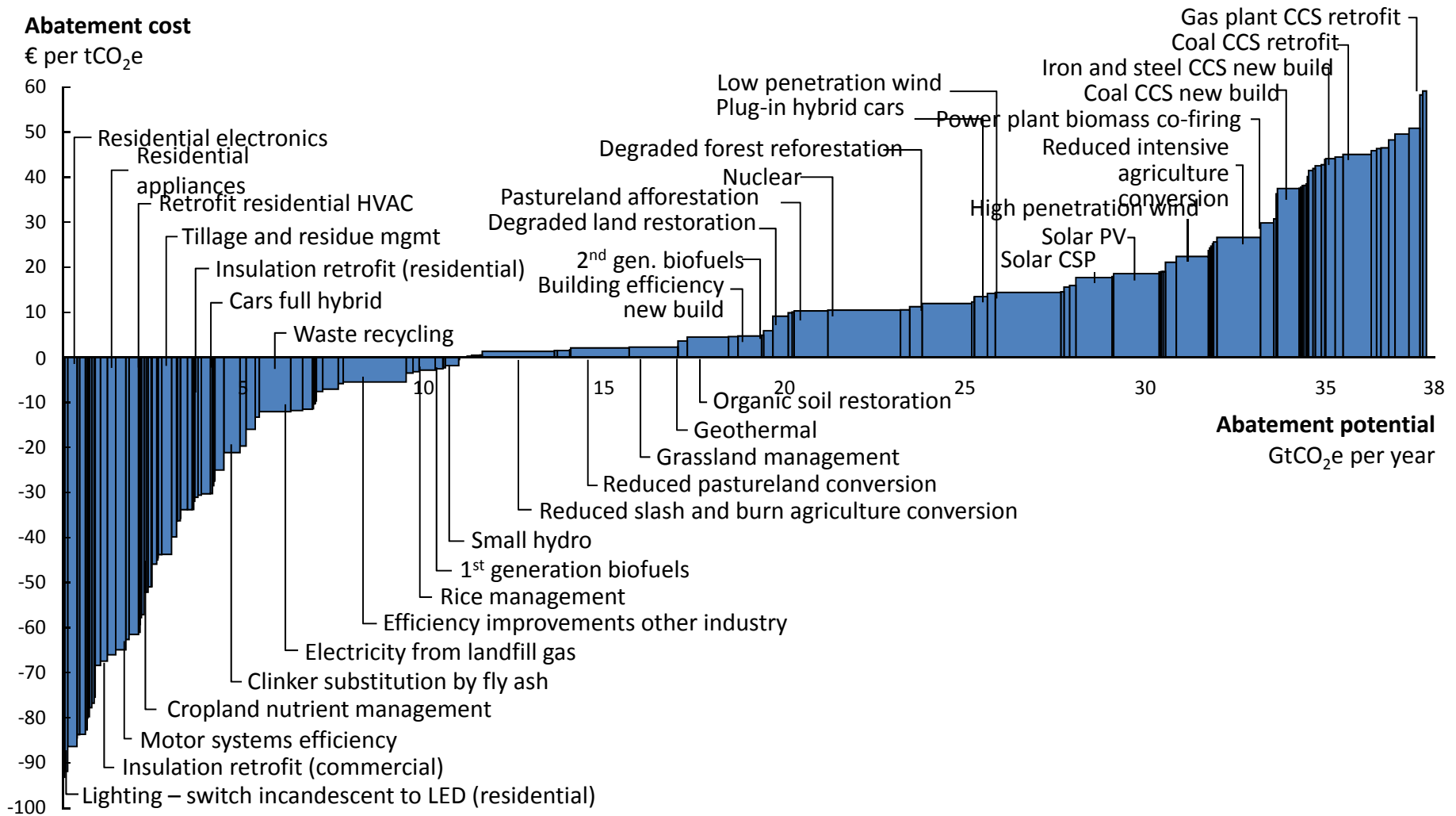
Energy Poverty: Opportunity to Act

The United Nations Secretary General has declared



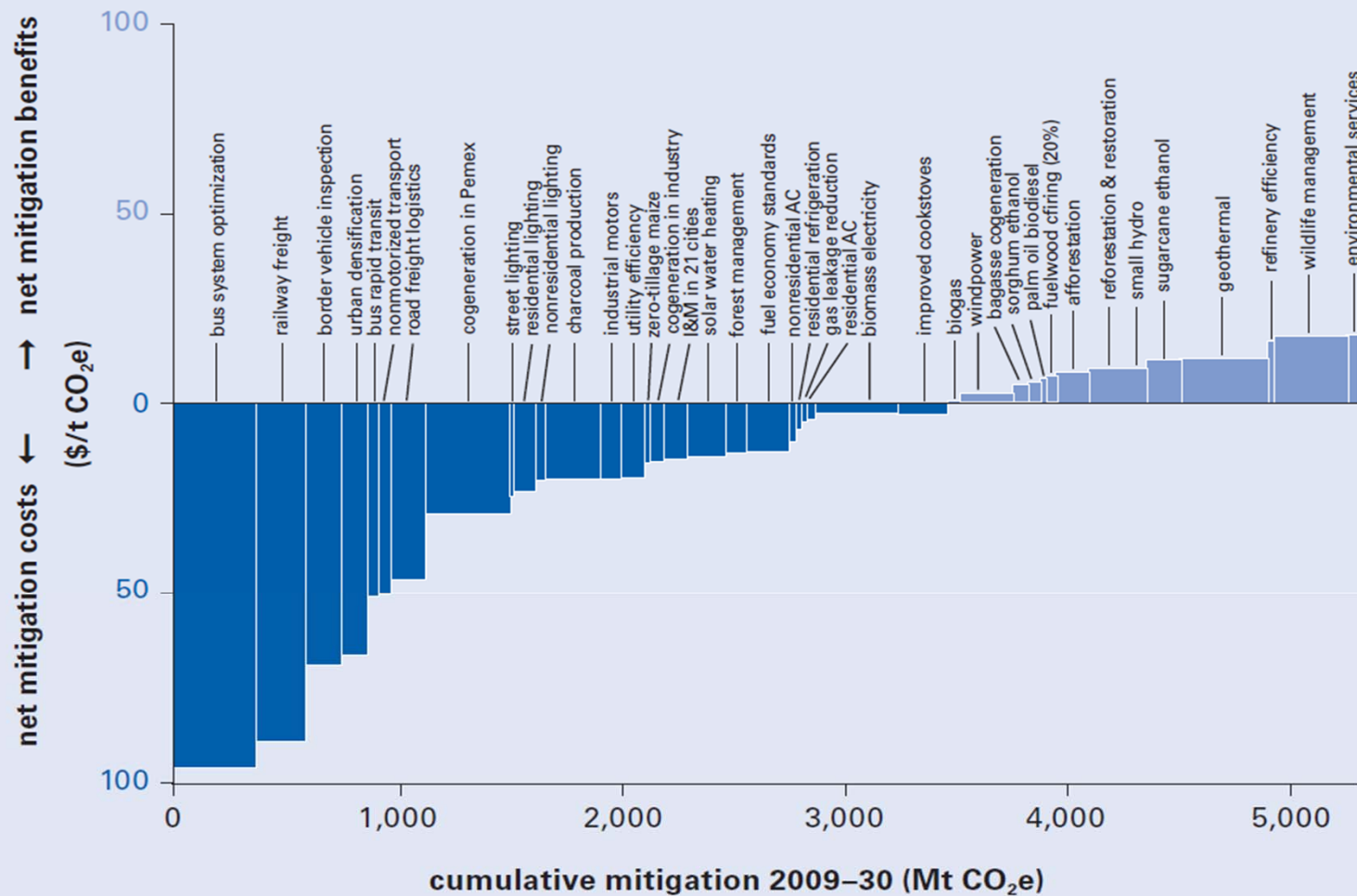
2012 INTERNATIONAL YEAR OF
SUSTAINABLE ENERGY
FOR ALL

Global Greenhouse Gas Marginal Abatement Curve



Global Greenhouse Gas Marginal Abatement Curve: Mexico Low-Carbon Study

Figure 2 Marginal Abatement Cost Curve

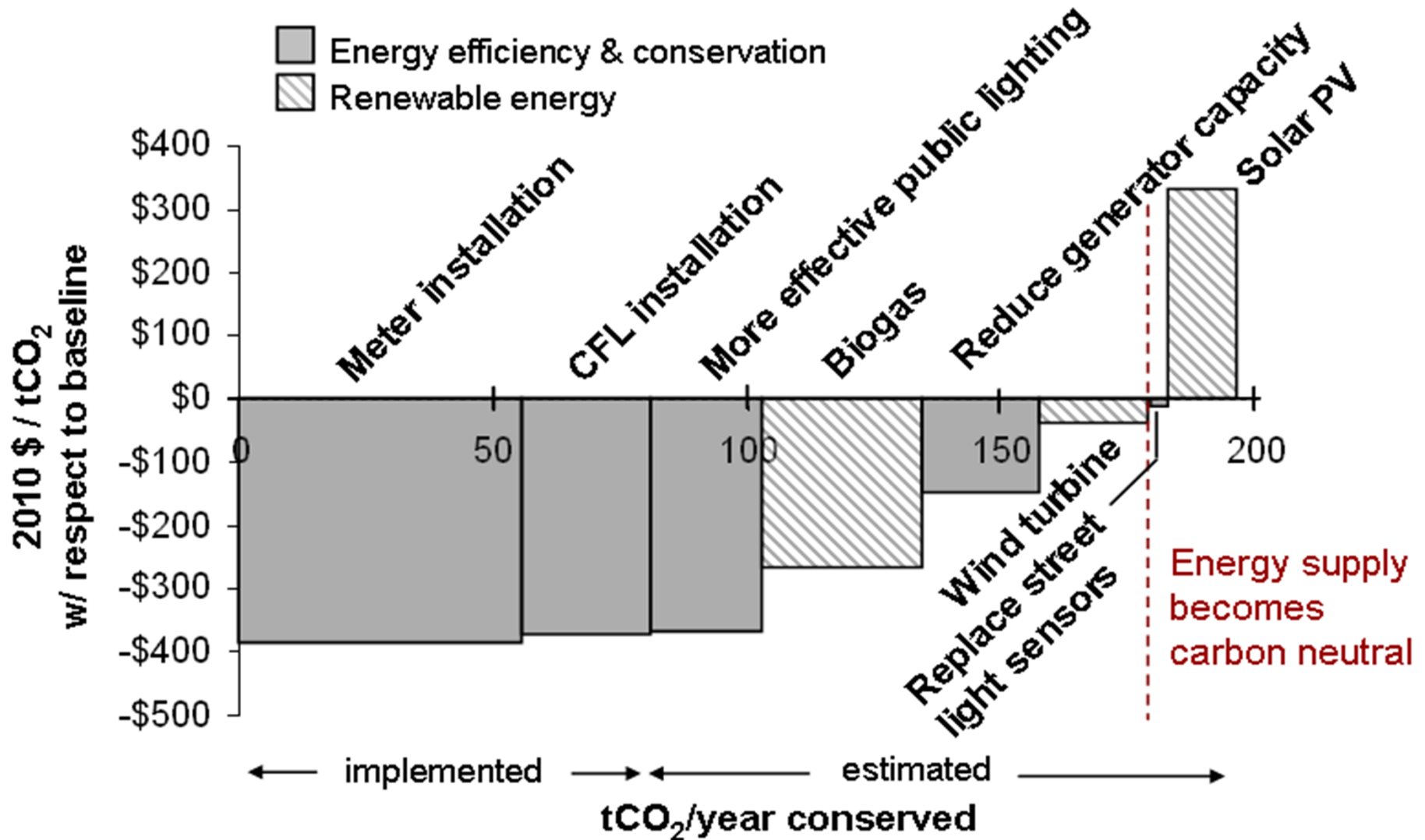


Energy Efficiency Training, Orinoco

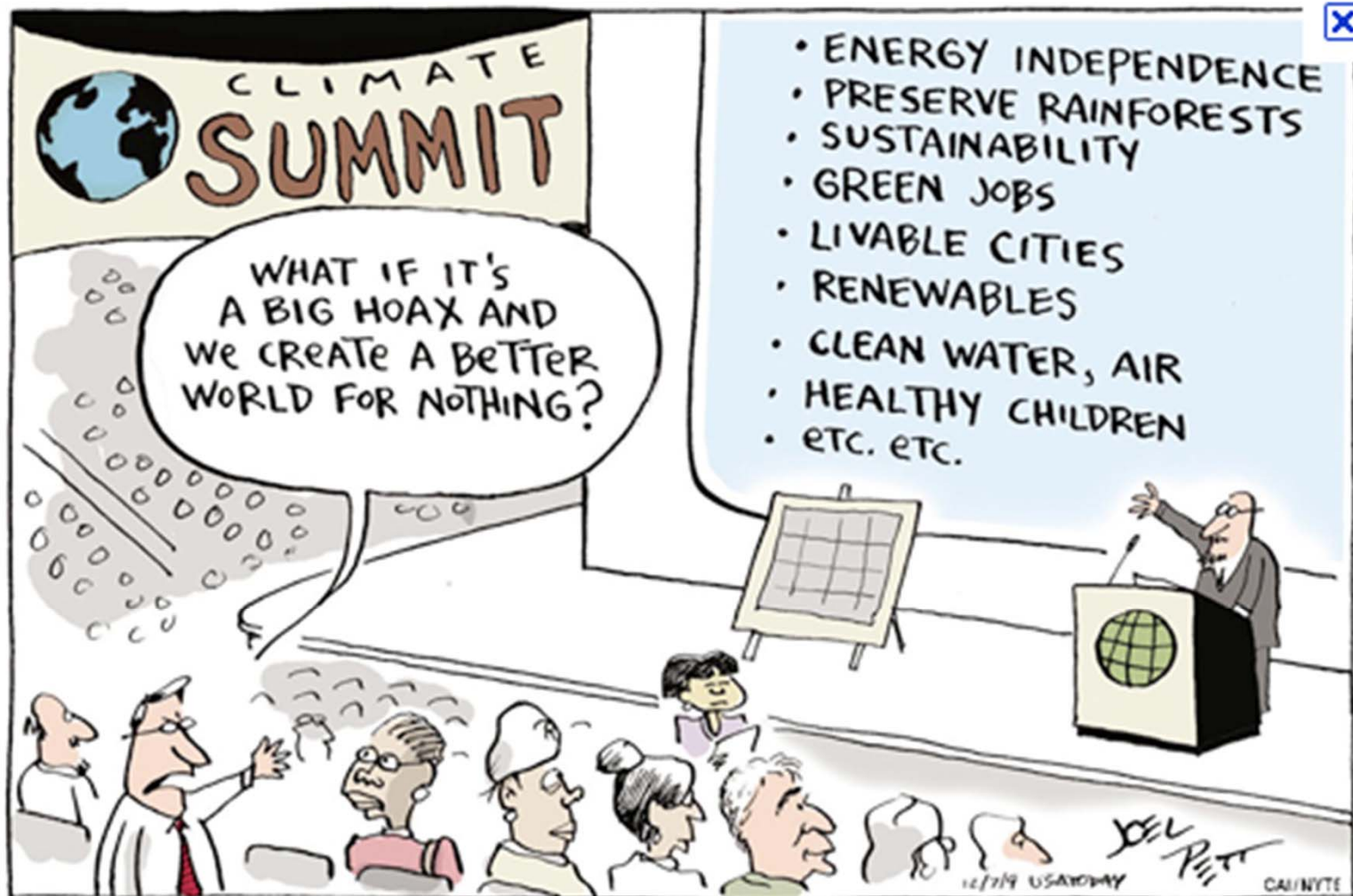


Christian Casillas (Energy and Resources Group PhD student)

Greenhouse Gas Marginal Abatement Curves: Communities of Orinoco & Marshall Point, Nicaragua



Tools for Sustainability Assessment



Shortcuts



Money to Get You Started

[LEARN MORE»](#)



California Success Stories

[VIEW»](#)



Save Money & the Planet

[LEARN MORE»](#)



Reduce Your Climate Impact

[CALCULATE NOW»](#)



Climate Awards

[LEARN MORE»](#)



Give us your Feedback

[VIEW»](#)

CoolCalifornia

Stay informed on our latest news!

Subscribe

Unsubscribe



TAKE ACTION TO KEEP THE PLANET COOL



WELCOME TO COOLCALIFORNIA.org, our goal is to provide resources to all Californians in order to reduce their environmental impact and take action to stop climate change. Realizing local governments, businesses, schools and individuals have different needs, we have customized pages for each audience. Click the tabs above to find:

- Money saving actions and best practices
- Financial incentives for actions and projects
- Carbon footprint and greenhouse gas emissions calculation tools
- Case studies and Success stories
- Educational resources

So, come on, be "cool" and check out the resources on CoolCalifornia.org today!

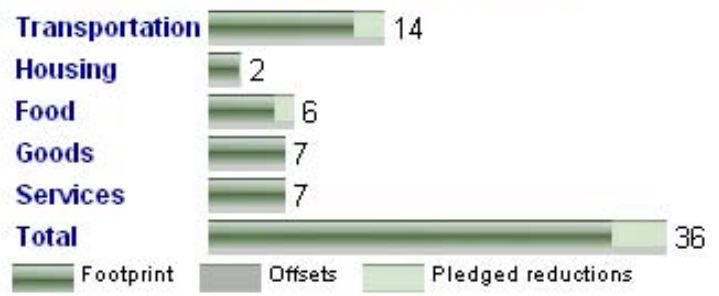
Popular content

- [Calculator](#)
- [Household Actions](#)
- [About Us](#)
- [Small Biz Actions](#)
- [Small Business Award Program](#)

Recent Case Studies

- [Diamond D General Engineering](#)
Heavy civil general engineering construction company...
- [The Living Christmas Company](#)

Carbon Footprint Summary (tons CO₂e / year)



Climate Action Plan Summary

MY CURRENT FOOTPRINT	41	100%
Pledged reductions	5	12%
Offsets	0	0%
MY NEW FOOTPRINT	36	88%
financial savings per yr	\$2223	
10 year net savings	\$20321	
Payback	0.9	

1) Click [view / hide](#) 2) Pledge 3) [Save](#) Assumptions Pledge all

		mt CO ₂ e/yr reduced	\$ / yr saved	10 year net savings
✓	view  Buy a More Efficient Vehicle	1.86	\$500	\$3000
✓	view  Telecommute to Work	1.07	\$528	\$5280
	view  Ride my Bike	0.58	\$156	\$1560
	view  Take Public Transportation	0.47	\$156	\$1560
	view  Practice Eco-Driving	0.93	\$249	\$2490
	view  Maintain my Vehicles	0.71	\$190	\$1900
	view  Reduce Air Travel	0.45	\$100	\$1000
	view  Offset Remaining Transportation Footprint	13.07	-\$261	-\$2610
✓	view  Switch to CFLs	0.18	\$63	\$721
	view  Turn Down Thermostat in Winter	0.52	\$95	\$950
	view  Turn up Thermostat in Summer	0.15	\$54	\$540
	view  Choose an Energy Star Refrigerator	0.05	\$17	\$140
	view  Dry your Clothes on the Line	0.22	\$75	\$750
	view  Purchase Green Electricity	0	\$0	\$0



THE BERKELEY INSTITUTE
OF THE ENVIRONMENT
UNIVERSITY OF CALIFORNIA, BERKELEY



CoolClimate
Carbon Footprint Calculator

Greenhouse gas and sustainability calculators:

<http://coolclimate.berkeley.edu>

&

<http://www.coolcalifornia.org>