Addressing Climate Instability Yes We Can? or No We Can't?

Public Interest Law Conference 2017





Tons CO2 Emissions per Capita per Year (as of 2014) Compared – Production Basis



Emissions Tons/ Capita: 2015 PBL Netherlands Env. Assessment Agency (p31)

Sustainable estimate range, multiple sources: PI citations on file

Import – Export Emissions: https://carnegiescience.edu/news/carbon_emissions_outsourced_developing_countries

Tons CO2 Emissions per Capita per Year Compared – Converted to Consumption Basis



Emissions: Tons CO2/capita World Resources Institute (Source:Nationmaster)

Sustainable estimate range, multiple sources: PI citations on file

Import – Export Emissions: https://carnegiescience.edu/news/carbon_emissions_outsourced_developing_countries

2º C Target – Worldwide Personal Carbon Budget (Gt CO2e)



Note: Emissions totals for 2020-2050 are based on a pathways for limiting likely temperature increase by 2100 to 2°C above pre-industrial levels. 'Personal' includes the sum of emissions of the consumption categories: housing, travel, food,



Robin Quirke Social Psychologist Policy Interactive Research

Can pro-environmentalists get to 2MT?

- Evidence that suggests yes we can
- Evidence that suggests no we can't
- Solutions and strategies

Why is this important?

Hopefully pro-e are making lifestyle choices that we can use as a model of how to live sustainably. And for the sake of CREDIBILITY, it is important that we check in and see if we're practicing what we preach. We decided to assess pro-environmentalist behaviors to see how they compare to the general population.

Two sample populations



Consumptive Behaviors Comparison

We needed to find a quick way to measure both sample populations' carbon footprints so we asked Chris Jones from UC Berkeley, Program Director of the CoolClimate Network who is also one of the creators of the Cool Climate Carbon Calculator (which is used by Oregon's DEQ)-- how to proxy a carbon footprint with just three questions?

Calculating CO₂ Footprint Proxy

1. Square footage / people in home

- Miles do you drive or ride in a car or truck EACH WEEK (not including work-paid driving) / Miles per gallon
- 3. Hours spent flying LAST YEAR for PERSONAL REASONS (such as vacations, etc.; not workrelated)



Evidence that suggests yes, we can

1. Less influence of income on carbon footprint

Research has shown that the strongest predictor of carbon footprint is income. Basically, as people's incomes go up, so do their respective carbon footprints. **Richard Heede** Principal of Climate Mitigation Services and a carbon emissions accountant recommended our three proxy questions be annual income, annual air travel, and distance to and from work.

Income as predictor of CO₂ footprint

Pro-environmental (\blacksquare) N = 263, General (\blacksquare) N = 240



2. Less ft² per person

Square feet per person

Pro-environmental N = 263, General N = 240



3. Driving less

Average miles drive per week

Pro-environmental N = 263, General public N = 240



Average gas mileage of car

N = 215 (pro-env.) and N = 208 (gen. public)



Evidence that suggests no, we can't

1. Carbon footprints still way too big

CO₂ footprint proxy

Pro-environmental N = 263, General public N = 240



Pro-environmentalists ONLY (home, drive, air)

Pro-environmental N = 263



2. Using air travel too much

Air travel for last year (Achilles' heel?)

Pro-environmental N = 263, General public N = 240



Survey Question: What is the main reason you did not use air travel? Pro-environmental *N* = 95, General public *N* = 130

- \circ I am frugal.
- \circ I try to keep my carbon footprint small.
- I had no opportunity or I did not have enough money.
- \circ I had no desire to use air travel.

95 Pro-environmental and 130 General public did not fly in the last year.



95 Pro-environmental and 130 General public did not fly in the last year.



95 Pro-environmental and 130 General public did not fly in the last year.



Is air travel significant?

Global CO₂ emissions (annual; per capita)

World Bank, 2013 18 16.4 16 CO₂ emissions in metric tons 14 12 10 8 6.1 6 5 4 1.6 2 0.6 0 World U.S. Iceland **Kiribati** India

Global CO₂ emissions (per capita; annual)

World Bank, 2013

Cool Climate Calculator, 2017



Pro-environmentalists ONLY (home, drive, air)

Pro-environmental N = 263



Pro-environmentalists ONLY (air travel removed)

Pro-environmental N = 263



Pro-environmentalist values
Survey Question: U.S. citizen or global citizen?

Pro-environmental N = 263, General public N = 240



Here we briefly describe Tyra. Please read her description and think about how much she is or is not like you.

Tyra strongly believes that people should care for nature. Looking after the environment is important to her.

Pro-environmental N = 263, General public N = 240



Why aren't we walking our talk?

There are so many reasons people choose high carbon behaviors: lack of awareness, lack of options, the abstractness of climate change, convenience, social norms, habit, etc. I am going to focus in on what I see as a big hindrance in the pro-e community: competing values.

Each human has a unique set of values. "I am..."



Buying local foods:



Vacation to Hawai'i:



SOLUTIONS

What can do? What will get to that 2 metric tons?

1. Take an honest look in the mirror.



Are we really being equitable global citizens? Are we using our fair share of the carbon budget? WE HAVE TO BE HONEST WITH OURSELVES IN ORDER TO TAKE RESPONSIBILITY FOR OUR ACTIONS.

2. Self-control



Stop choosing high carbon behaviors. Just stop it.

3. Shift social norms







There needs to be a shift away from high carbon behaviors inviting social approval. We need to move towards a healthy level of guilt.



Can pro-environmentalists get to 2MT?

So circling back, do I think pro-e can voluntarily get to 2 metric tons per person a year or hopefully even less? The more research we do, the more I think no, but I deeply hope people will prove me wrong. I would like to end my portion of this panel by sharing the kind of action that does gives me a little bit of hope.

Oregon State Bar Sustainable Future Section Climate Change Task Force Report

(January 2017) Recommendation 3: Encourage Attorneys to Reduce Emissions, Practice Sustainability

"[The Oregon State Bar Sustainable Future Section] should create an individual certification program for attorneys . . . to encourage attorneys to minimize their individual carbon footprint.

Everyone has a responsibility to avoid excessive emissions of greenhouse gasses. For that reason, [the Sustainable Future Section-- SFS] could provide all members of the Oregon Bar with educational resources to learn how to reduce their own emissions. Further, SFS could create a greenhouse gas reduction educational certification program to help attorneys to track their behavioral modifications and learning."

Task Force recommendation for future exploration:

"The Oregon Professional Rules of Conduct could be modified to define actions that are sustainable and protect the climate as 'ethical' actions."

[Available at sustainablefuture.osbar.org]

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What really counts?

SMALL

- Recyling newspaper & bottles
- Turning off an unused light

BIG – REDUCING:

- Driving
- Flying
- Big house
- Heating
- Consumerism conspicuously or hidden

Personal Experiences 'net-zero emission'

- Purposeful intentionality Goals
- Breaking old habits
- Structural conversions in habits
- Study and Analysis what's true, what isn't?
- Feedbacks measurement accounting
- Course corrections

Systematic Categories

- Household
 - Energy
 - Design
 - Maintenance
 - Old-school methods
- Food & Diet
- Transportation & travel
 - Proximity : cultivation of home
 - Staycations Play close
 - Old-school & Technology
- Work
- Finances -

























Air Travel – ask yourself: casual travel or life experience?

~ \$20,000 : 2013/2014/2015/2016

Includes all personal lifestyle expenses:

- Food
- House: maintenance + property taxes
- Car: amortized/year + fuel, maintenance, insurance
- Insurance (liability but not fire or health)
- Energy: heat, light, communication
- Entertainment
- Stuff, misc. & etc.

 "Oregon Carbon Calculator" (Cool Climate Calculator) Tom = 2.4 tons

The Carbon Fund – Retail Offsets @ \$10/ton Tom: 2.4 tons = \$24 Actual purchase 10 tons @ \$100

> How Much B.S. Here? The Carbon Fund "F.A.Qs."

Domains of Engagement





Sheldon Zakariski The Climate Trust



THE CLIMATE TRUST

All About Offsets

Sheldon Zakreski March 4, 2017

Outline

- About The Trust
- Common Myths
- How Offsets Work
- What to Look for



The Climate Trust

- We've committed \$34 million to 46 offset projects
- Climate impact equivalent to taking almost 700,000 cars off the road so far
- Launched a \$5.5 million carbon fund in 2016




Do offsets let buyers off the hook?

Figure 8: Emissions Reductions Activities, Offset Buyers versus Non-Offset Buyers



Notes: Based on emissions reductions activities reported by 1882 companies. Data source: CDP public disclosure, reporting year 2013. THE CLIMATE TRUST

Offsets 101

- Defining Offsets
- Judging Beyond BAU
- Credible Accounting
- Auditing Performance
- Offsets & RECs



Offset Fundamentals

Offset Definition

 The reduction, removal or avoidance of emissions from a specific project that is used to compensate for emissions occurring elsewhere



Offsets Should

- Be real
- Be additional
- Have a realistic baseline
- Be quantified and monitored
- Address permanence

- Be independently verified
- Be unambiguously owned
- Address leakage
- Do no net harm



Additionality- Beyond Business As Usual?

- In theory
 - Demonstrate that offset funding incentivized the implementation of the reduction project
- In practice
 - Regulatory surplus
 - Common Practice
 - Barriers (Financial, Technological, Behavioral)



Additionality in action- Do you see what I see?



Third Party Verification

- Accredited
- Independent
- Fixed fee
- Essential
 - All offsets verified





Certification

- Third party standard
- Project-based
 - Design protocols
- Registry
 - Facilitates transactions
 - Provides transparency



A Global Benchmark for Carbon



Offsets Vs. RECs

Offsets

- 1 ton of CO₂e
- Additional
- Demonstrated
 Ownership
- Ongoing M&V

RECs

- 1 MWh
- Qualified Facility
- GHG benefit may or may not be included



Closing Comments

- Established design criteria
- Market has matured a lot
 - Third party certified offsets represent 98% of the market
- Clear standards + tangible projects = High Quality Product





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Climate Change & Attitudes What's going on in our heads?





Removing Fear as a Driver

- Self-reliance
- Resilience
- Doing with less
- Keeping it simple
- Study old-school ways
- How much is enough?

How Does Social Change Happen? Social Learning Theory – Albert Bandura

Rapid Change Occurs in High Stress or Through Observation of Others

Social Learning Theory

- VICARIOUS LEARNING or observational learning occurs by watching someone else and reward occurs.
- LEARN FROM EXEMPLARS who exhibit qualities the individual perceives important.
- **SELF-REINFORCEMENT** from outcomes a person can give themselves; personal reward.
- **SELF-EFFICACY** is a belief in ones ability to perform a behavior successfully.

Social Learning Theory + Tipping Point Theory

- Individual Behavior Does Count
- •People Watch Other People = Mimic
- •Critical Mass = Tipping Point
- •Exemplification Counts in Social Change
- *Motivations & De-motivations:*
- •Pent-up Concern; Morality, Guilt & Justice
- •Corrosiveness of Talk but not Walk

Domains of Engagement





Beneficial Effects – Big & Small

SMALL

- Recyling newspaper & bottles
- Turning off an unused light

BIG

- Driving
- Flying
- Big house
- Heating

PolicyInteractive

Feedback and Critique Welcome

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