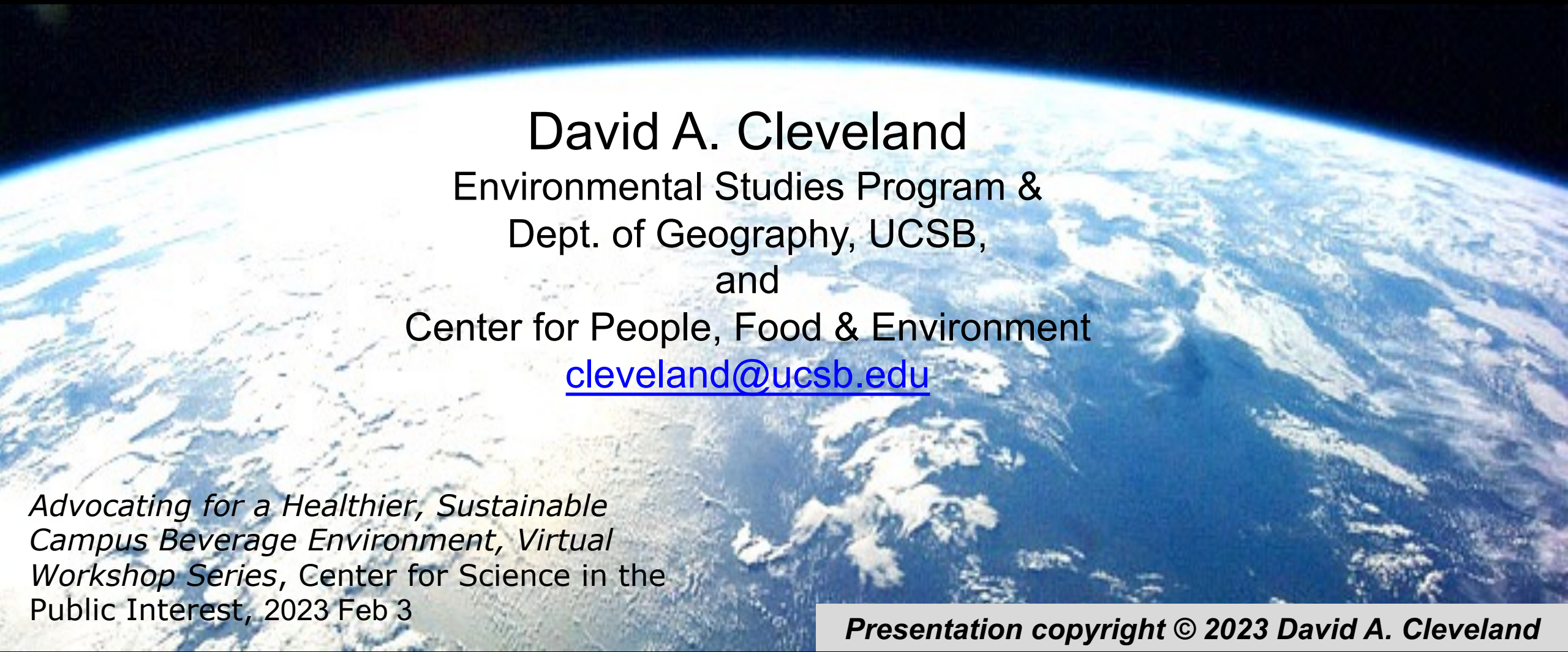
Pouring rights contracts & the environment: Crisis, impact, potential solutions



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Advocating for a Healthier, Sustainable Campus Beverage Environment, Virtual Workshop Series, Center for Science in the Public Interest, 2023 Feb 3

1. The Anthropocene existential crisis

Anthropocene = human activities dominate Earth systems, e.g. climate

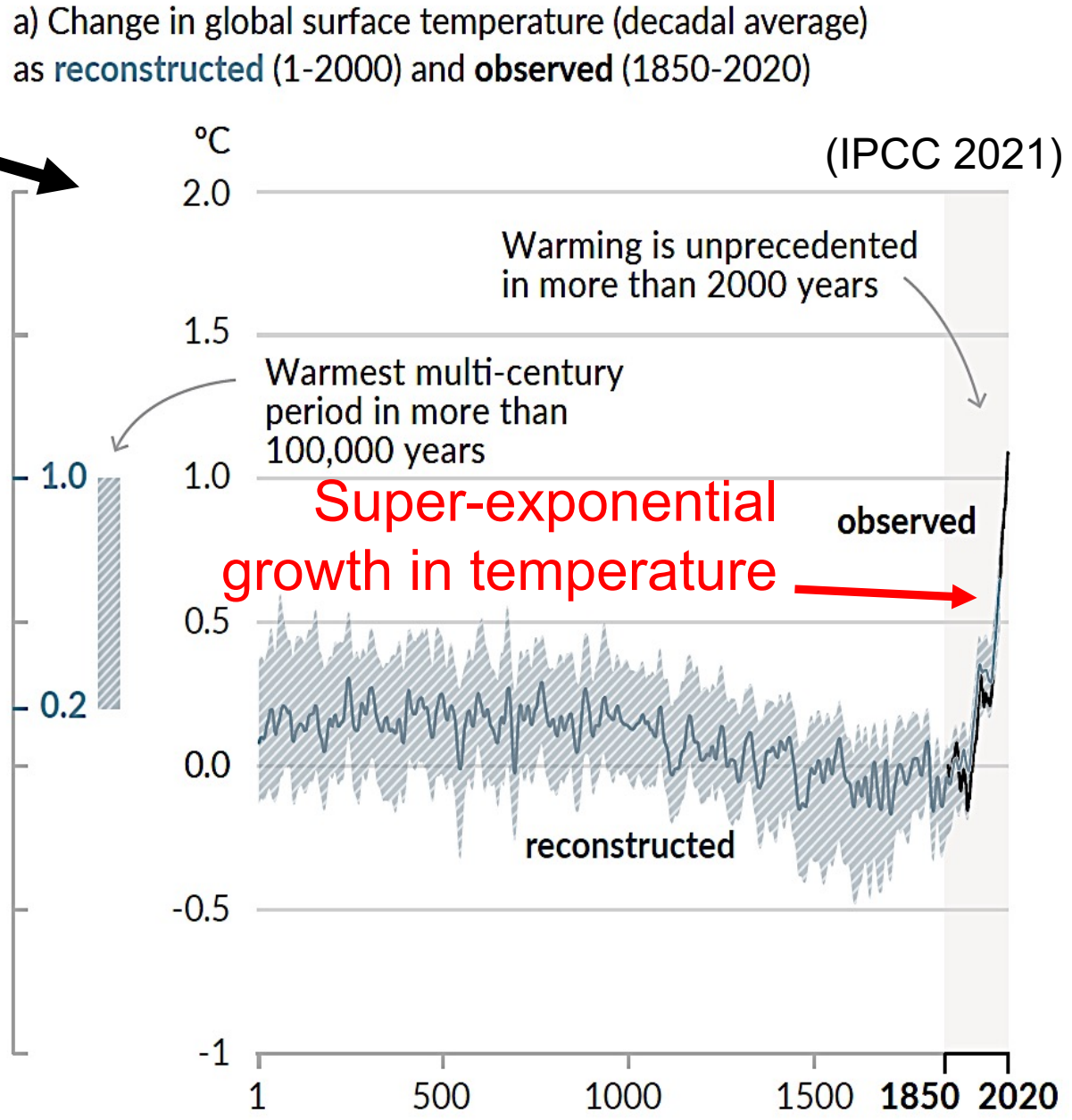
Anthropocene crisis = activities have large negative, unsustainable impacts

- Climate, biodiversity, ecosystems
- Society, human health, equity

Large negative impacts result from growth of superfluous, unsustainable production & consumption

Research shows we need to

- Reduce superfluous consumption
- Transition to steady state (no growth) economy
- Center improving health and equity



2. What are the direct environmental impacts of PRCs?

and, How can we reduce them through Healthy Beverage Initiatives?
These are the questions we answered in our life cycle assessment (LCA) research

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Healthy beverage initiatives: A case study of scenarios for optimizing their environmental benefits on a university campus

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The PepsiCo-UCSB Pouring Rights Contract (PRC)

Pouring rights contract

UCSB + PEPSI =

Brand loyalty & increased consumption

+

Disease

+

Env & climate pollution

+

Money

"The **University is seeking to maximize the return to the institution…"**

"**[Pepsi] will work the University…to promote sales** of the soft drinks…." (pp. 11,57)

Yet Combined total cash payment per year over 10 years,
$228,500 = 0.02% of UCSB 2022 budget

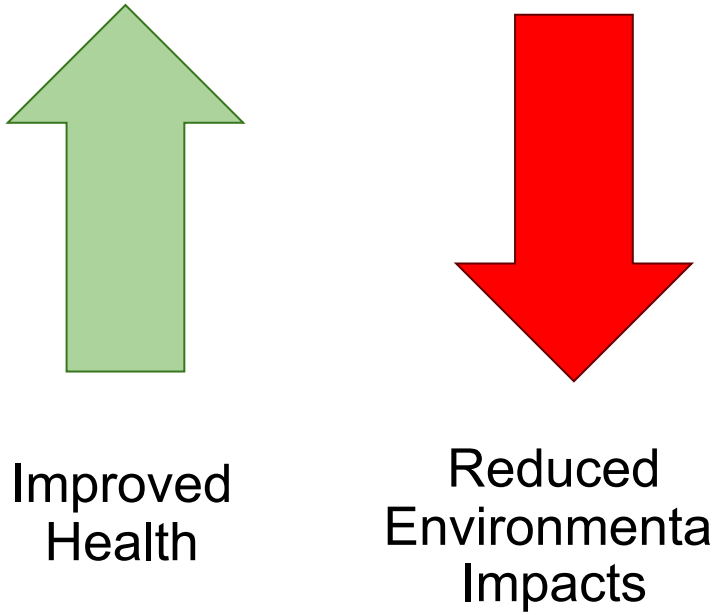
Environmental (or health and social) impacts not considered,
assumed these will be externalized

The UC, UCSB Healthy Beverage Initiative (HBI)

Evidenced based goals of HBI

- Reduce sugar sweetened beverage (SSB) consumption
- Increase availability and consumption of tap water in reusable bottles

Benefits of HBIs



Improved Health

Reduced Environmental Impacts

BYOB BRING YOUR OWN BOTTLE

Methods for our LCA study at UCSB

UCSB Dining beverage purchase data

- 2247 beverage purchases of 993,901 individual beverages over 12 mos (2019-20) = 940,773 liters

Categorizing beverages and containers

- Each beverage classified by
  - SSB (sugar sweetened beverage) or non-SSB status
  - 10 beverage type
  - 5 container types
- Plus filtered tap water from water filling stations

Environmental life cycle assessment (E-LCA)

- Impacts, cradle to grave, from literature
  - Greenhouse gas emissions, as CO_2e
  - Blue water (fresh surface & ground water, not rain) use
  - Plastic pollution
- Separately for beverage liquid and container

Results

Overall

- Lots of variation in impacts
- Most volume purchased
  - SSBs: soda, tea, juice & almond milk
  - Non-SSBs: bottled water, soda, animal milk & juice

Impacts of containers **per liter** of containers

Climate impact

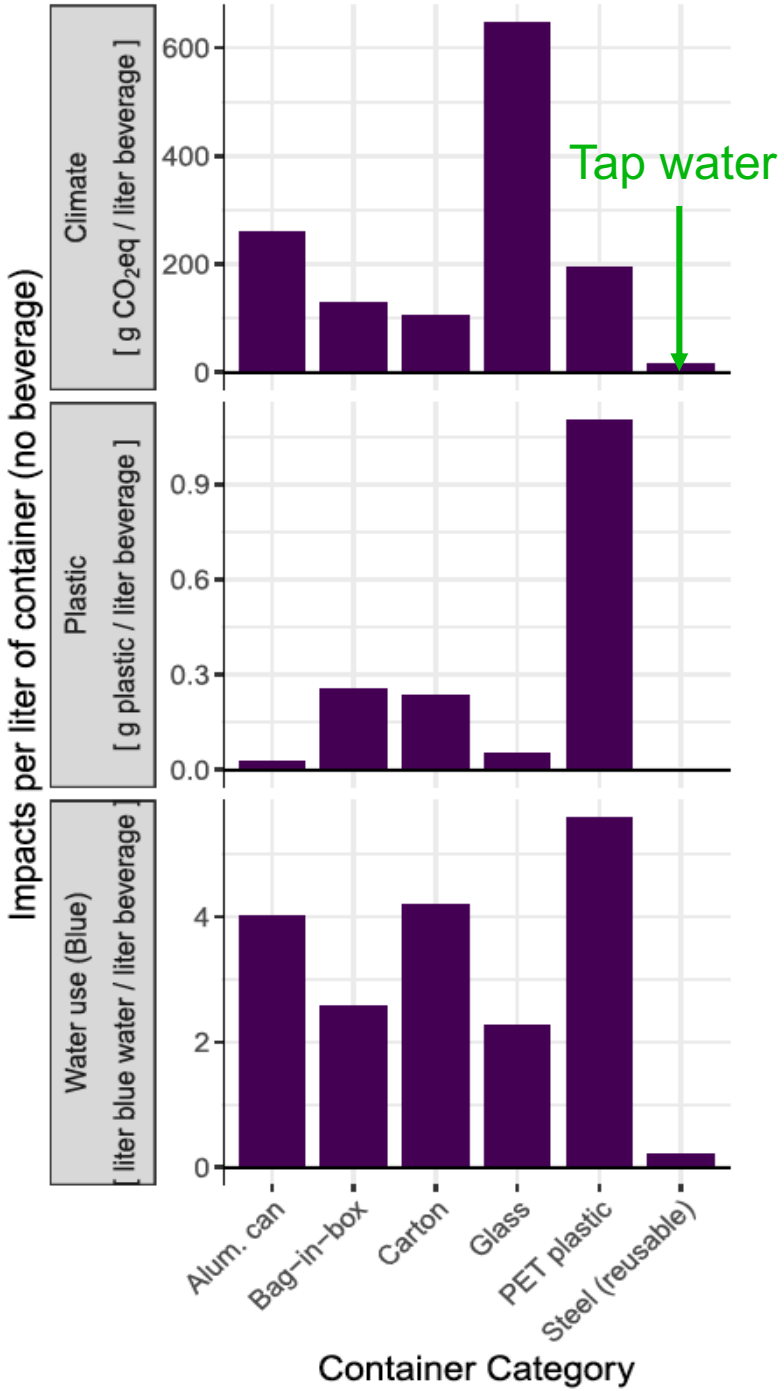
- Greatest for glass, aluminum, plastic
- Least for reusable stainless steel water bottle

Blue water impact

- Greatest for plastic, carton, aluminum
- Least for reusable stainless steel water bottle

Plastic pollution

- Greatest for PET plastic
- Significant for bag-in-box & carton



Impacts **per liter** of liquid beverage

Impacts of SSB & non-SSBs versions very similar; sugar has low impact

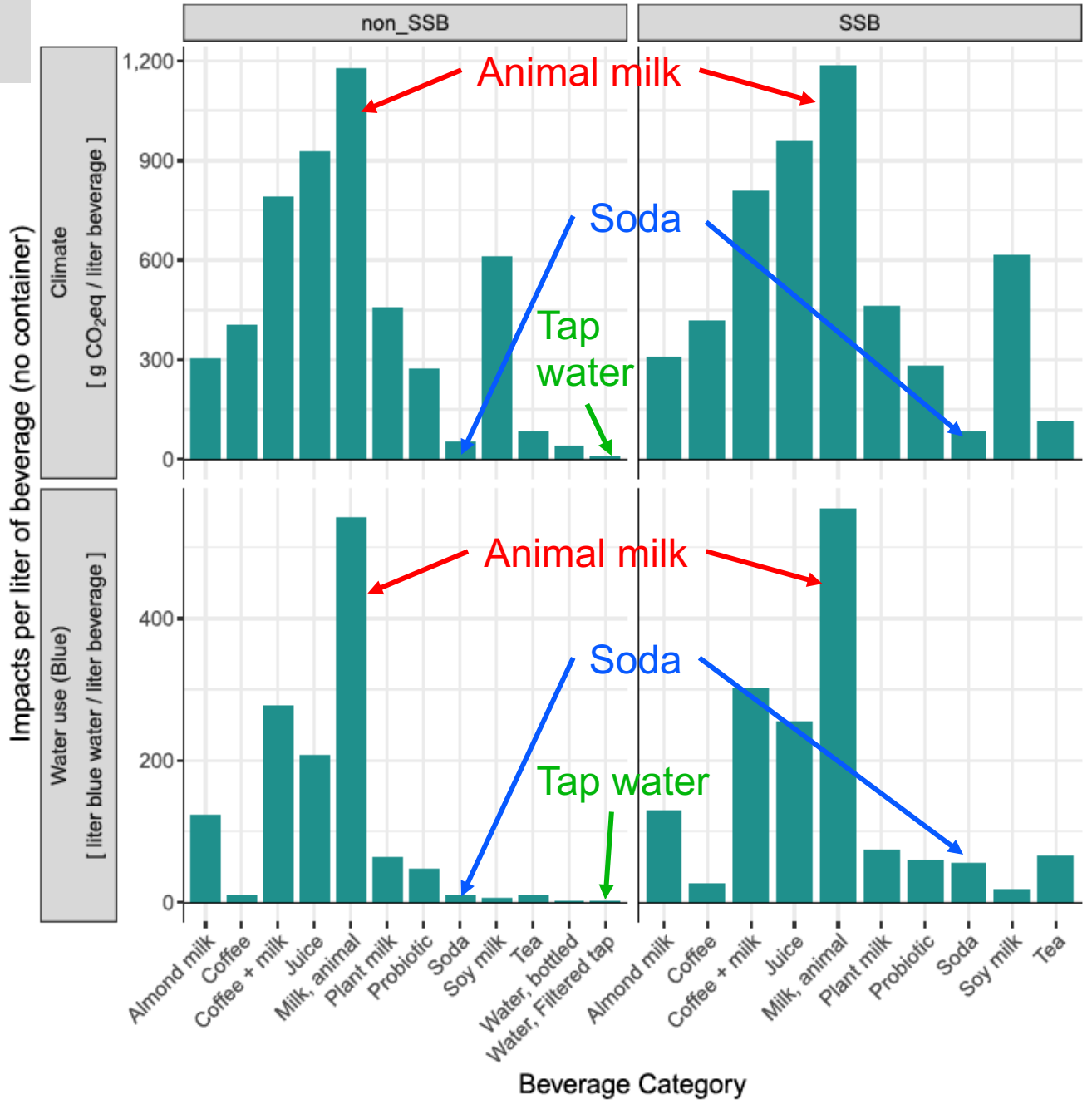
Climate impact for both non-SSBs and SSBs

- Highest for animal milk, juice, coffee+milk, and soy milk
- Soda very low
- Tap water the lowest

Blue water impact for both non-SSBs and SSBs

- Highest for animal milk, coffee+milk, juice, and almond milk
- Soda very low
- Tap water the lowest

Note: 'juice' SSBs = 'juice drinks'



HBI counterfactual scenarios

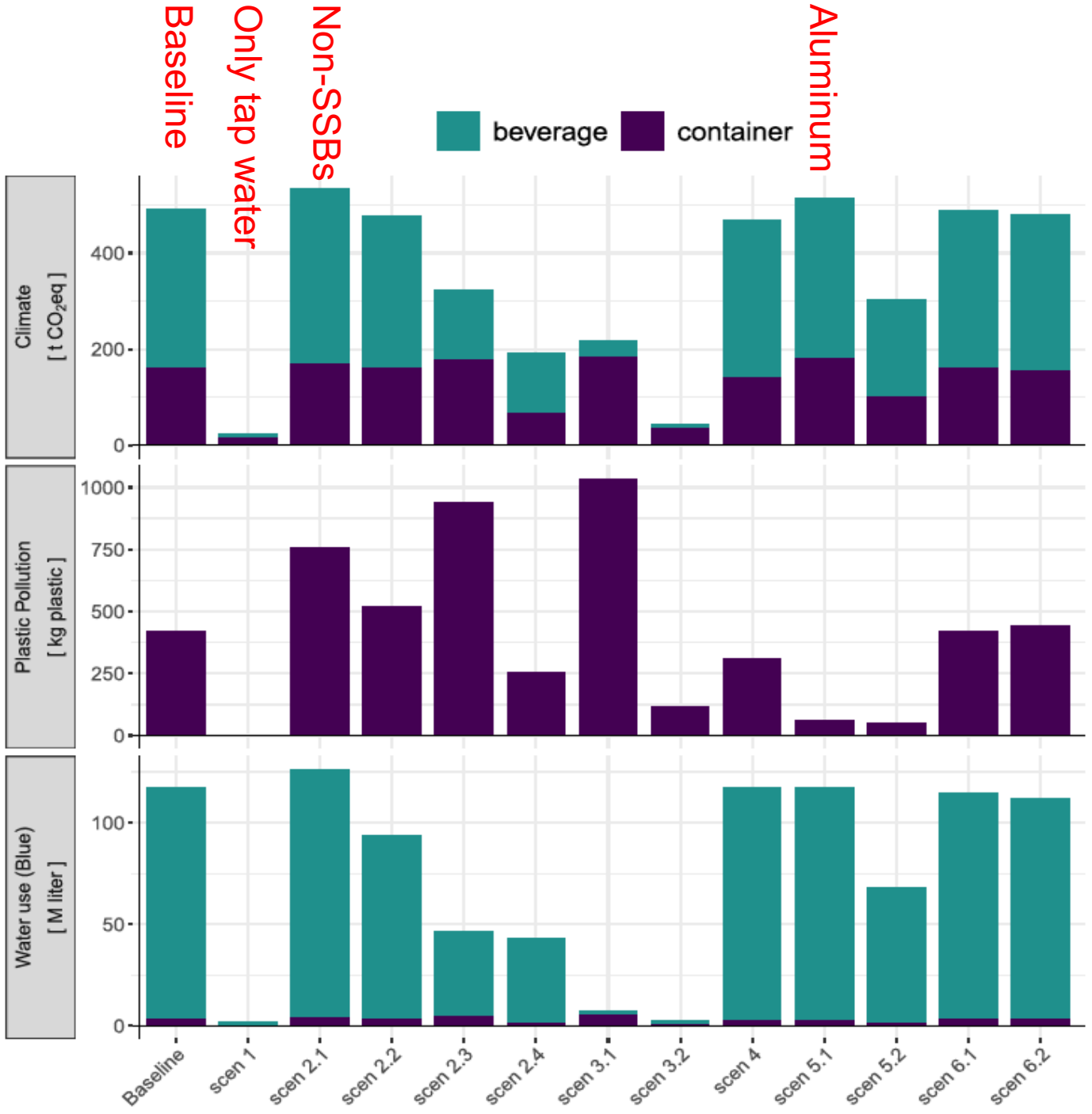
Large differences between scenarios

Baseline = UCSB with Pepsi PRC

Scen 1 = only tap water = lowest for all impacts

Scen 2.1 = replace SSBs with bottled water and non-SSBs: climate, plastic, & blue water impacts greater than baseline

Scen. 5.1 = replace all plastic with aluminum containers: climate and blue water impact not changed, plastic pollution decreased



Vending machines

"Pepsi shall have the right to place **no less than 80 vending machines**.. And UCSB helps to identify optimal locations for such equipment" (PRC, p. 6)

Table SI.13. Environmental impact of cooling beverages on campus.

Unit	Number	Volume sold (L yr^{-1})	Electricity cost ($)		Climate impact (kg CO_2e)		Blue water impact (liters)	
			yr^{-1}	$liter^{-1}$	yr^{-1}	$liter^{-1}$	yr^{-1}	$liter^{-1}$
Vending machines	90	104,397	**$36,894**	$0.35	163,429	**1.6**	788,400	**7.6**
Fountain machines	13	313,500	$5,329	$0.08	23,606	0.1	113,880	0.4
Retail refrigerators	NA	522,876	$8,189	$0.02	36,274	0.1	174,989	0.3
Total		940,773	$50,412		223,309		1,077,269	

Direct environmental impacts of beverages relatively ***very*** small

First year students, 64% total beverage impact

Their **per capita** beverage environmental impact for first year students

- Blue water: 13% of North American diets
- Plastic pollution: 16.6% of plastic pollution in California
- Climate (42.2 kg CO2e/yr):
  - = 2.4% of the US diet mean, 2005–2010
  - = 0.24% of total US per capita emissions, 2019

Our results useful for choosing between HBI scenarios

Indirect impacts much greater

3. Indirect impacts of PRCs

Health care climate impact

Added sugar intake in SSBs, risk of NCDs, and environmental impact of related health care

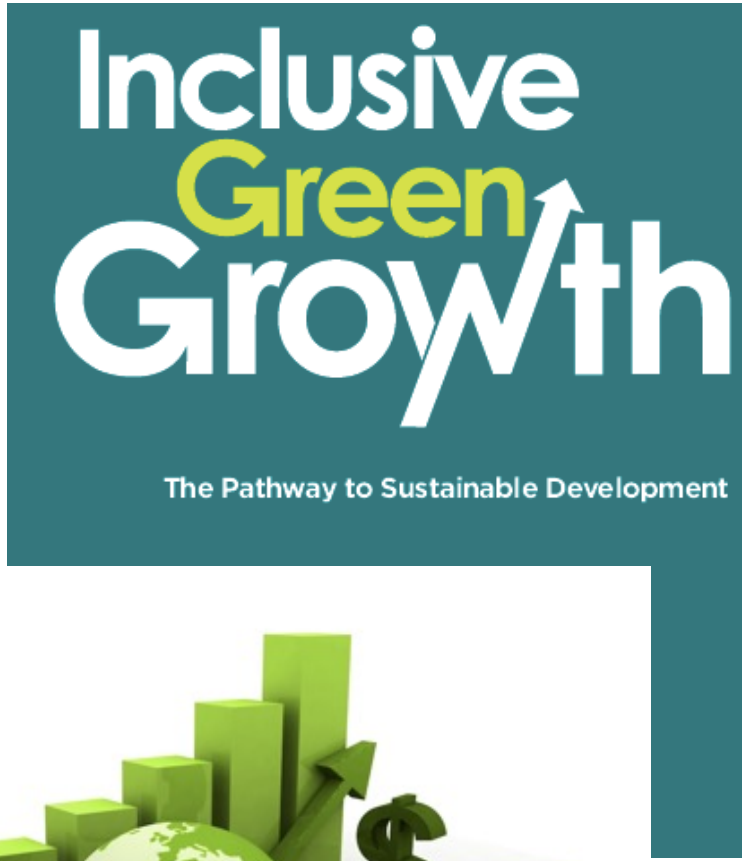
Estimated per year over 20 yrs

- Based only a few NCDs
- Emissions from health care = 85.8 MT CO2e/yr, = 17% of the baseline CO2e/year from all beverages on campus
- Health care costs from added-sugar associated NCDs = $393k/yr **= 1.7 x PRC revenue!**
- Costs externalized to students & society, private prioritized over public good

	SSBs, added sugar			non-SSBs, non-added sugar		
Beverage type	g/L	Amount kg	%	g L^{-1}	Amount kg	%
coffee	31	22	0%	0	0	0.0%
coffee + milk	46	1,001	2%	22	12	0.2%
juice	101	9,027	21%	77	3,087	53.0%
almond milk	13	869	2%	0	0	0.0%
animal milk	29	675	2%	47	2,665	45.8%
plant milk, other	63	474	1%	0	0	0.0%
soy milk	47	1,480	3%	4	44	0.8%
probiotic	28	155	0%	31	13	0.2%
soda	100	26,984	63%	0	0	0.0%
tea	18	1,964	5%	0	0	0.0%
Total[b]	68	42,649	100%	28	5,821	100.0%

Biggest environmental impact: PRCs re-enforce consumerism

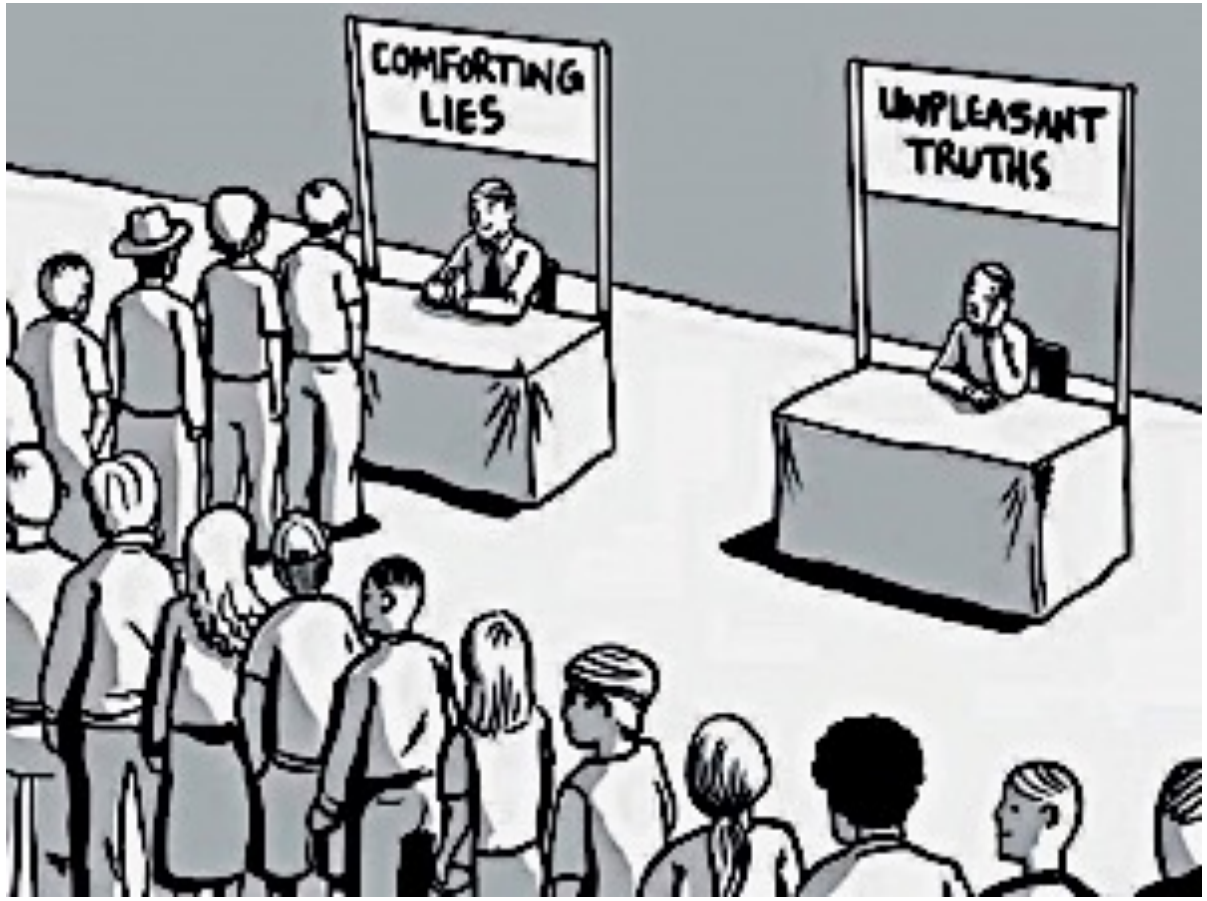
- Neoliberalism dominates economics & society
- Re-enforces the human potential to prioritize individual and private good values, humans over the environment, consumerism, market based solutions
- Behaviors generated by these values shown to increase human misery
- Key, scientifically unsupported assumption of neoliberalism is absolute decoupling of economic growth from environmental impact by increasing efficiency, so that economies and consumption can grow indefinitely ('green growth')



(Cleveland 2023)

4. The Anthropocene crisis demands science-based solutions, not market-based solutions

- ‘Comforting lies’ will get pretty uncomfortable, because they won’t avert crisis
- Accepting ‘unpleasant truths’ and taking action will lead to happier, healthier future



Sufficiency can transform human impact

‘Sufficiency’ increasingly discussed and researched as a necessary response to the Anthropocene crisis

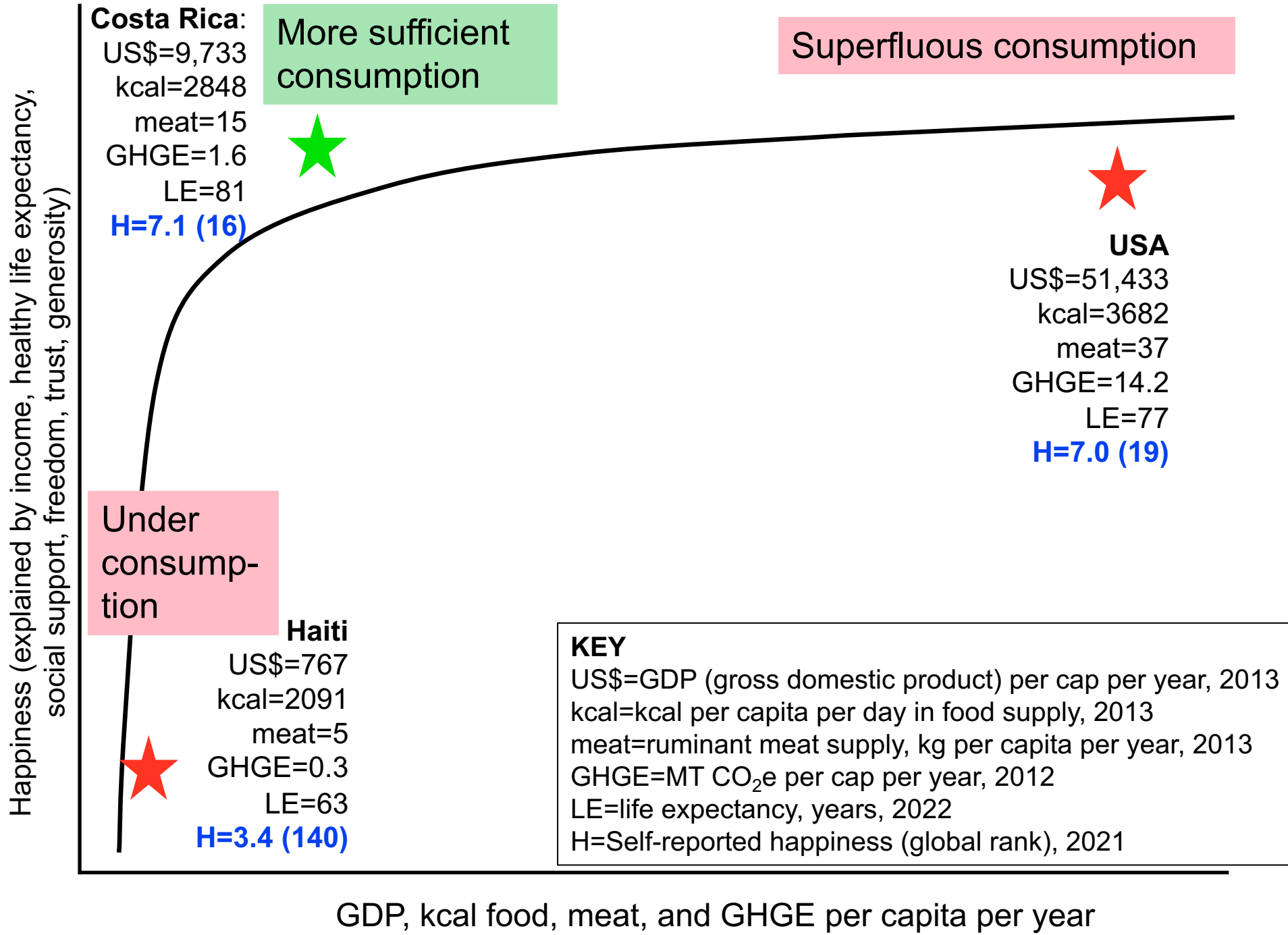
It means rejecting neoliberal assumptions about ‘green growth’

So we can prosper within sustainable boundaries, and instead

- Emphasizing human potential to prioritize community and public good values
- For HBIs, replacing commercial beverages with tap water as much as possible
- Replacing some commercial beverages with healthier, more environmentally sustainable beverages, while reducing consumption
- Reducing superfluous consumption, which can increase health & happiness

The correlation between well-being (happiness) and consumption

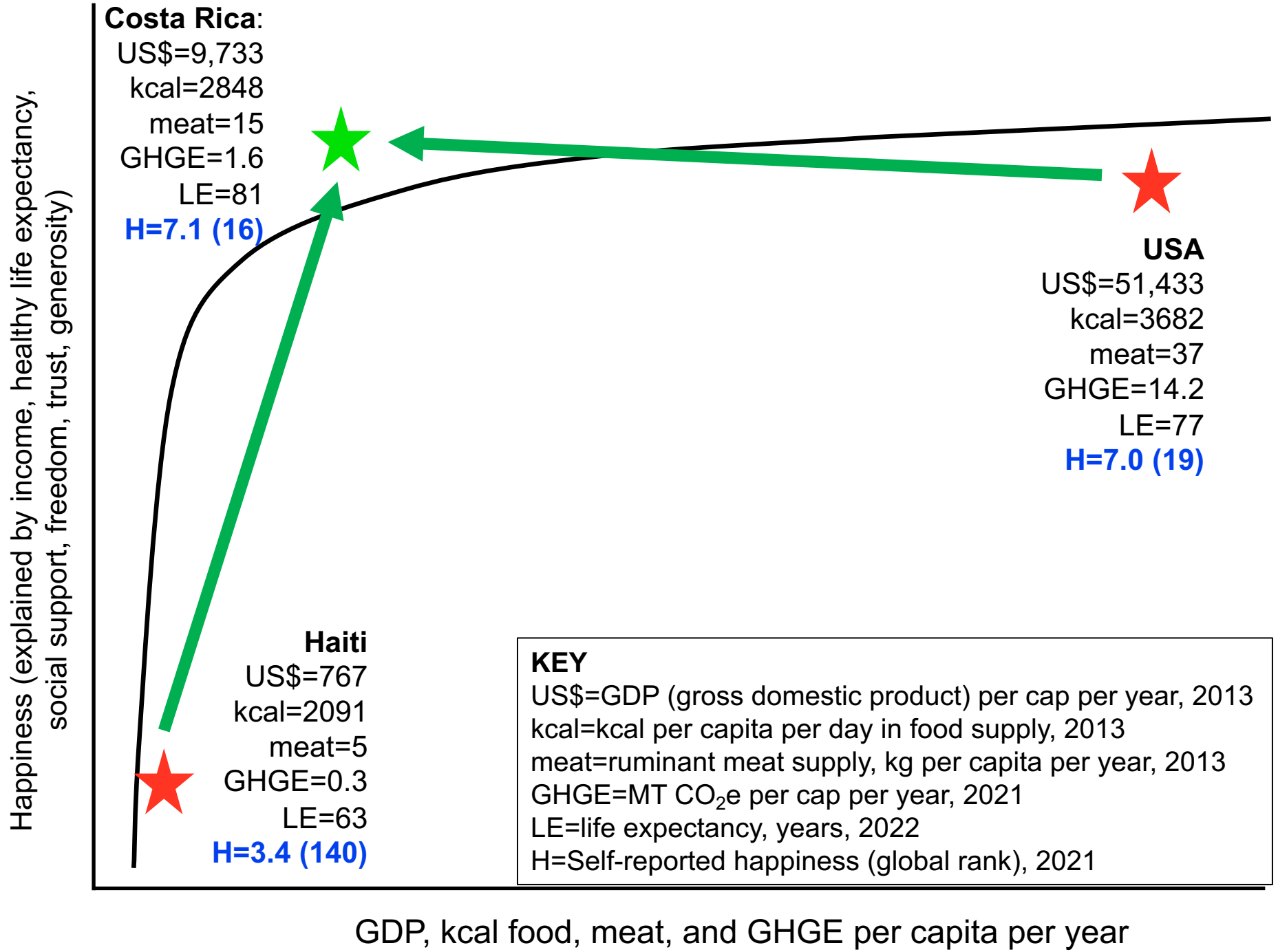
- There are diminishing returns to well-being from increasing consumption
- Superfluous consumption of over-consuming populations does not contribute to well-being, but has large environmental impact
- Superfluous consumption deprives under consuming populations of resources needed for well-being
- Sufficient consumption optimizes well-being & environmental impact



Sufficient consumption is key to avoiding Anthropocene catastrophe

Reducing superfluous consumption by over-consuming populations can make resources available to under consuming populations

…and everyone can be happier and healthier



Colleges and universities should lead response to the Anthropocene crisis

- Have public good mission
- Are centers of the research that has established our sustainable environmental and social limits
- Are centers of learning for young people in US: in 2020
  - = 74.5% of 18–19-year-olds
  - =40.6% of 20–24-year-olds

- Where students establish life time consumption habits

Beverages on campus are a small part, but a good place to start!

To make our campuses, and the world, more environmentally sustainable (and healthier & more equitable)

We need to accept scientific findings & prioritize public good

…difficult, but are there are no alternative ways to avoid catastrophe

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