# People for the Planet: Catalyzing a Mass Movement for Net Zero

Rick Hanson, Ph.D. www.PeopleForThePlanet.org April, 2024



### Global warming is real. We – humanity – are causing it.

Our greenhouse gasses have heated the planet by 3 degrees Fahrenheit so far.

That may not seem like much – but it's already brought catastrophic storms, wildfires, famines, extinctions, and other disasters.

And it's only getting worse.



### It can all seem so complicated and big and overwhelming. It's normal to feel despairing and helpless.

But lots of smart, motivated people are working on this problem.

# We can claim the power we DO have to support them. And do OUR OWN PART as well.

### Let's see what we can do TOGETHER!



**Dr. Katharine Hayhoe** of The Nature Conservancy has a great analogy:

Our planet is like a giant swimming pool.

Greenhouse gasses are the "water" in it – already one-and-a-half times greater than the amount a few centuries ago.

And we keep pouring into it: 55 BILLION METRIC TONS of CO2e each year.

(CO2e is carbon dioxide plus equivalent amounts – in terms of their <u>impacts</u> on global warming – from methane, nitrous oxide, and other greenhouse gasses.)



#### Turn off the pipe:

Green energy, sustainable lifestyles

#### Drain the pool:

Capture carbon

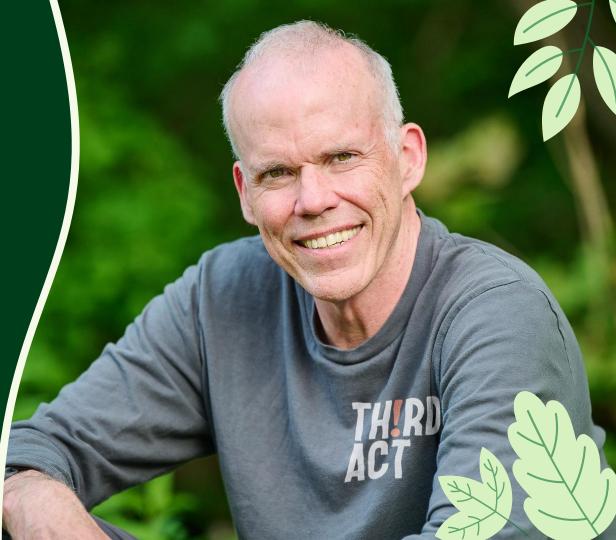
<u>Learn to swim</u>:

**Climate resilience** 

As Bill McKibben says, there is no "silver bullet" for the climate crisis: no single solution.

But there IS "silver buckshot" – a <u>package</u> of good actions that together can halt and even reverse global warming.

And we CAN do them!





### <u>Reducing emissions</u> — turning off the pipe — is most important.

But there's no realistic way that this alone will prevent climate catastrophe.

Even IF there were the political will to stop using fossil fuels, it would **still take decades** to replace them with clean energy – particularly as the energy needs of developing countries continue to rise.

GREEN

# And powerful forces – focused on profit, not planet – will keep <u>delaying</u> emissions reductions as long as they can.

Plus we still have to deal with the greenhouse gasses already in the sky, inexorably heating our planet.

What can we do about all this?

# We must force the major carbon producers to cut their emissions.



These steps are vital – but they usually take a long time to accomplish, and vested interests are fighting them tooth and nail.

What can you do meanwhile, with the power you DO have??

### You can make sure your own carbon footprint is Net Zero by . . .



and



### That's doing your part for the planet.

And when **many of us do it together**, it will both **decrease greenhouse gasses** and **increase pressure** on the special interests that are wrecking our planet.

#### Let's see how to do it!

In America, the average person's carbon footprint is about **20 metric tons/year of CO2e**.

As wealth increases, usually so does the carbon footprint.

You can calculate your own carbon footprint at many websites, such as:

<u>8 Billion Trees</u>

<u> Terrapass</u>

Even just an estimate is a good start.



# Ways to reduce your household's carbon footprint:

(These are estimates of CO2e/year, and your results could vary.)

I.I tons Air-dry clothes **0.7 tons** 

Recycle paper, glass, and cans

0.4 tons Compost food waste

0.3 tons Turn the water heater down to 120 degrees F

#### **0.2 tons**

Do laundry with cold water

#### ~2 tons

If your utility has this option, avoid fossilfuel sources of your grid-based electricity

# Ways to reduce your personal carbon footprint:

(These are estimates of CO2e/year, and your results could vary.)

2.4 tons Eat one pound less of beef each week

#### ~I.5 tons Drive 100 miles less each week

0.3 tons Buy only second-hand clothes 0.2 tons Fly 1000 miles less each year

You could also put solar panels on your roof, get an electric car, and buy a heat pump. These will help! Still, they cost money, and it usually takes years before their benefits offset their "embodied carbon."

# After reducing your carbon footprint as much as you can, let's say you get it down to 10 tons a year.

In effect, with one hand you're still releasing greenhouse gasses. You can't help it. It's unavoidable. We're all part of the carbon economy. But with the other hand, you can REPAIR that harm by supporting organizations that are pulling greenhouse gasses back out of the sky, and preventing them in the first place.





For example, the Nature Conservancy, 8 Billion Trees, Carbon Footprint, TerraPass, Blue Carbon Initiative, and other nonprofits are:



REPLACING fossil fuels with green energy sources (such as solar, hydroelectric, and wind)



PRESERVING wetlands and forests (to prevent new GHG from their destruction, keep storing carbon, and save precious habitats)



CAPTURING greenhouse gasses (by planting trees etc., changing agricultural practices, and developing new technologies)



Many of these actions have additional benefits, such as protecting biodiversity and <u>engaging indigenous people</u>.

And there are ongoing efforts to improve the science, transparency, and regulation of carbon repair projects.

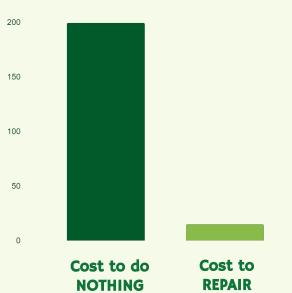
### These carbon repairs are highly leveraged!

~\$200

### Cost per ton of CO2e to people and planet

(That adds up to **TEN TRILLION dollars a year** – remember this when lobbyists start complaining about the costs of going green.)

\$15 Typical cost per ton of CO2e repaired (depending on the project)



## This means that a tax-deductible donation of half a dollar a day could repair your remaining carbon footprint.

For some, this just won't be possible. So they might do their part for the planet in other ways. And some with more financial means might double their donations in support of others.

# You could support projects that link what you donate to specific net reductions in your carbon footprint such as:

#### REPLACE

- <u>Produce clean water</u> so people don't have to burn wood to boil it
- <u>Develop wind farms</u>
- <u>Develop hydroelectric power</u>

#### CAPTURE

- <u>Reforest degraded lands</u>
- <u>Plant mangrove forests</u>

#### PRESERVE

- <u>Restore grasslands</u>
- <u>Protect old growth</u>
  <u>forests</u>



Or you could support nonprofits focused on carbon repairs that do great work, but don't directly link dollars donated to tons of CO2e saved, such as:

- <u>Cool Earth</u>
- <u>The Nature Conservancy</u>
- Pachamama Alliance

- <u>Carbon 180</u>
- Project Drawdown

Or you could help nonprofits that are taking on the climate crisis in other ways, such as <u>electing leaders who will DO something about it.</u>



No one can stop you from going Net Zero. You have that power – and it sure feels good to use it!

Even if other people are dumping their trash in the street . . . You still want to pick up your own litter!

That's being responsible, and using the power you DO have.



And if enough of us do this together, we can help save our precious planet.

> Mass movements have toppled tyrants, ended wars, changed laws, and promoted civil rights.

> > Now we need a mass movement to prevent climate catastrophe!

Wealthier countries have produced most of our greenhouse gasses. So people in these countries have a special responsibility.

### LET'S THINK **BIG**



If a million Americans got to Net Zero, that could lower greenhouse gasses by **20 million metric tons a year** – which really matters!

43% of Americans "worry a great deal" about global warming. That's over 100 million adults – and if just half of them went Net Zero, that could SAVE ONE BILLION TONS A YEAR OF CO2e.

### How about other developed countries?

COUNTRY/REGION	AVG. FOOTPRINT	% VERY CONCERNED	<b># VERY CONCERNED</b>	IF HALF GO NET ZERO
EU	8.5	77%	275M	1.2 BIL tons
UK	6	39%	21M	48 MIL tons
CANADA	14	72%	22M	133 MIL tons
AUSTRALIA	18	40%	8M	71 MIL tons
SOUTH KOREA	13	86%	44M	247 MIL tons
JAPAN	9	62%	67M	314 MIL tons

From these countries alone, that would be nearly 2 BILLION TONS A YEAR.

Millions of "very concerned" people in other countries could also go to Net Zero.

Which would save **BILLIONS MORE TONS OF CO2e EACH YEAR**.



If we all do everything we can, a mass movement for Net Zero could **reduce net greenhouse gasses by about 10%**, year after year after year.

That would be one of the biggest single improvements so far.

### No one can stop us!

And all these people would be more passionately committed than ever to **pushing Big Oil and its allies to finally do their part as well.** 

# What can YOU do to prevent climate catastrophe?

You can reduce your own carbon footprint and repair the rest.

You can support People for the Planet in catalyzing millions of other people to do the same.

And we can all vote and push the big carbon producers to cut their emissions and get to Net Zero themselves!

Together, with millions of us using the power we DO have, we just might save the world.





### Commit to being Net Zero yourself.

## Motivate others by signing the pledge at www.PeopleForThePlanet.org.

Keep pressuring the big carbon producers.

Support green organizations.

Keep enjoying our beautiful precious Earth!

#### **Reference Notes**

**Heated the planet by 3 degrees Fahrenheit so far:** McCulloch, M.T., Winter, A., Sherman, C.E. *et al.* 300 years of sclerosponge thermometry shows global warming has exceeded 1.5 °C. *Nat. Clim. Chang.* 14, 171–177 (2024). <u>https://doi.org/10.1038/s41558-023-01919-7</u>

Our planet is like a giant swimming pool: <u>https://www.youtube.com/watch?v=tND7KyxggoE</u> [timestamp: 58:48]

One and a half times greater than the amount a few centuries ago: <a href="https://climate.nasa.gov/vital-signs/carbon-dioxide/">https://climate.nasa.gov/vital-signs/carbon-dioxide/</a>

55 BILLION METRIC TONS of CO2e each year: <u>https://ourworldindata.org/greenhouse-gas-emissions</u>

CO2e, or CO2-equivalent, is carbon dioxide plus equivalent amounts from methane, nitrous oxide, and other greenhouse gasses:

https://ecometrica.com/assets/GHGs-CO2-CO2e-and-Carbon-What-Do-These-Mean-v2.1.pdf

"There are no silver bullets, only silver buckshot.": https://blogs.nicholas.duke.edu/silver-buckshot/the-world-according-to-bill-mckibben/





#### Even IF there were the political will to stop using fossil fuels, it would still take decades to replace them with clean energy:

https://greenamerica.org/green-economy-work/could-world-be-powered-fully-renewable-sourc es

#### There's no realistic way that this alone can prevent climate catastrophe:

https://www.usatoday.com/story/news/nation/2020/11/12/reducing-greenhouse-gas-emission s-stop-climate-change-study/3761882001/

#### \$600 billion a year in subsidies:

https://www.budget.senate.gov/chairman/newsroom/press/sen-whitehouse-on-fossil-fuel-sub sidies-we-are-subsidizing-the-danger-

20 metric tons/year of CO2e:

https://8billiontrees.com/carbon-offsets-credits/reduce-carbon-footprint/

Air-dry clothes: 1.1 tons: <u>https://www.greenamerica.org/green-living/ditch-your-dryer</u>

Recycle paper, glass, and cans: 0.7 tons: <u>https://changeit.app/blog/recycle-matters/</u>

**Compost food waste: 0.4 tons:** Average American household wastes ~ 20 lbs of food/month. Every lb of food thrown away releases about 3.8 lbs. This means about 912 lbs of CO2e released annually per household ~ 414kg/year.

https://theecoguide.org/how-much-can-composting-help-reduce-my-carbon-footprint

Turn the water heater down to 120 degrees F.: 0.3 tons: https://news.climate.columbia.edu/2018/12/27/35-ways-reduce-carbon-footprint/

#### Do laundry with cold water: 0.2 tons:

https://news.climate.columbia.edu/2018/12/27/35-ways-reduce-carbon-footprint/

#### If your utility has this option, avoid fossil-fuel sources of your grid-

**based electricity:** ~ 2 tons: This number is found assuming an average annual household electricity usage of 10,800kWh, then multiplying this energy usage by 0.2kg CO2/kWh. The emissions intensity for California of 0.2kg CO2/kWh is an estimate, as CA's electric grid fluctuates between 0-0.4kg CO2/kWh, depending on the availability of renewables in the grid at the time. https://www.paloaltoonline.com/blogs/2022/07/24/the-emissions-intensity-of-californias-electricity -grid/ **Eat one pound less of beef each week: 2.4 tons:** The CO2e footprint of beef falls within a wide range based on various factors. A common range could fall between 27kg CO2e/kg beef to 155kg CO2e/kg beef.

 $(100 \text{kg}/2.2) * 52 \text{ weeks} = 2360 \text{ kg} \rightarrow \text{assuming 1 kg of beef releases} \sim 100 \text{kg CO2e}$ 

https://www.forbes.com/sites/davidrvetter/2020/10/05/got-beef-heres-what-your-hamburger-is-doing-t o-the-climate/?sh=b2a51275206f [claim 60kg CO2e/kg beef] https://8billiontrees.com/carbon-offsets-credits/carbon-ecological-footprint-calculators/carbon-footprin t-of-meat/ [claims 27kg CO2e/kg beef] https://www.co2everything.com/co2e-of/beef [claim 155kg CO2e/kg beef] https://www.dw.com/en/fact-check-is-eating-meat-bad-for-the-environment/a-63595148 [claim 100kg CO2e/kg beef]

**Drive 100 miles less each week:** ~ **1.5 tons:** Assuming average vehicle tailpipe emissions of 400 grams CO2/mile. 400g \* 100 mi \* 52 weeks = 2,080,000g = 2080kg = 2 tons CO2

https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle

Another estimate using an average of 25.4 mpg with a gallon of fuel releasing about 8.9 kg is 1,819.39 kg of CO2e annually

(100mi/25.4mpg) \* 8.9 kg/gal \* 52 weeks = 1822kg CO2

Buy only second-hand clothes: 0.3 tons:

https://www.thecommons.earth/blog/the-myth-and-potential-of-sustainable-fashion

Fly 1000 miles less each year: 0.2 tons: <u>https://terrapass.com/product/flight-carbon-offset/</u>

Ongoing efforts to improve the science, transparency, and regulation of carbon repair projects:

https://www.weforum.org/agenda/2023/01/5-reasons-forest-carbon-credits-climate-action/

**\$200:** found by taking a weighted average <a href="https://www.nytimes.com/2023/12/02/climate/biden-social-cost-carbon-climate-change.html">https://www.nytimes.com/2023/12/02/climate/biden-social-cost-carbon-climate-change.html</a>

\$15 - Typical cost per ton CO2e repaired:

https://8billiontrees.com/carbon-offsets-credits/carbon-credit-price-per-ton/ https://climate.mit.edu/ask-mit/what-most-cost-effective-way-buy-carbon-offsets

**43% of Americans "worry a great deal" about global warming:** <u>https://news.gallup.com/poll/355427/americans-concerned-global-warming.aspx</u>

#### PERCENT VERY CONCERNED IN:

EU: https://ec.europa.eu/commission/presscorner/detail/en/ip\_21\_3156

#### UK:

https://www.statista.com/statistics/426733/united-kingdom-uk-concern-about-climate-ch ange/

#### Canada:

https://www.cbc.ca/news/politics/majority-canadians-worried-about-climate-change-1.69 64334

#### Australia:

https://australiainstitute.org.au/post/all-time-high-of-75-of-australians-concerned-about-cl imate-change/

#### Japan

https://mainichi.jp/english/articles/20231121/p2a/00m/0na/013000c

#### South Korea

https://en.asaninst.org/contents/south-korean-perception-on-climate-change/

