

Reading 9, Drawing down greenhouse gas emissions by being the change

You may be wondering why I included Peter Kalmus twice in this course, first in the documentary on *Being the Change* and now in the book of the same title upon which the film is based.

In fact, I imagine this week's reading to be more akin to Project Drawdown than the documentary on Kalmus.

Project Drawdown gave us a glimpse of the big picture, and what we need to do to globally bring down greenhouse emissions. However, as someone in our class aptly noted, "Most of the solutions...are not things that I can do personally right now. I cannot switch to wind power, solar power, or nuclear power when I am currently living on campus. I also cannot implement agricultural practices or improve my rice cultivation methods."

In contrast, Peter Kalmus looks at what each of us can do to draw-down our own greenhouse emissions, like bike and eat with the climate in mind.

True, we have been discussing these things for a number of weeks now, but not through the eyes of a scientist. As a climate scientist, Kalmus is able to do the same sort of calculations that we saw in Project Drawdown, but, in his case, he focuses on the issue in a far more personal way.

For example, he notes that when he went vegetarian in 2012, it reduced his greenhouse gas "emissions by about 1,500 kg CO₂e per year. " Going freegan reduced his "food emissions by an additional 1,000 kg CO₂e per year." As he notes, Kalmus's vegetarianism and freeganism hence reduced his food emissions to 400 CO₂e per year, which is .4 metric tons. Since he also "began growing food, [and] trading surpluses with neighbors," presumably this number is even lower.

What is interesting here is that Kalmus is not just calculating what sort of emission reductions are possible, he is actually testing to see if this is possible, let alone rewarding.

He also does a great job of bringing the relative impact of his actions into focus. "My five most effective actions were quitting planes, vegetarianism, bicycling, freeganism, and composting." In this class we have, of course, talked about cars, planes, and animal products as a problem, but Kalmus not only underscores that these are major issues, he shows how he acted on them and the results.

Kalmus also draws attention to seemingly little things that might escape our attention. For example, “[w]hen we first moved into our house in 2008, there were five pilot lights emitting a whopping 1,600 kg CO₂e per year.” This translates into 3527 pounds, or over 1.5 metric tons. Recall that we each should annually be emitting no more than 2 metric tons each.

I am curious which reductions in particular that Kalmus and his family took interested or surprised you most. For example, he notes that by switching to using a clothesline they reduced their “household CO₂e emissions by 550 kg.” This one little change saves half of a metric ton of CO₂ or equivalent gasses annually. Note too that there is an incredibly small amount of CO₂ embedded in a clothesline, especially when compared to the manufacture of a clothes dryer.

Because he is a climate scientist, Kalmus really likes to back up what he says with cold, hard facts. For example, he said that “[t]he average American diet emits 2,900 kg CO₂e per year,” which is almost 3 metric tons – and hence can completely blow your individual carbon allotment.

Another eye-opening statistic is that “each dollar spent on new stuff represents roughly 0.5 kg embodied CO₂e emissions (counting manufacturing, packaging, and shipping).” As “[t]he average US person spends a little over \$6,000 per year on new stuff...average emissions are something like 3,000 kg CO₂e,” which translates into three metric tons per American – and hence can also completely blow your individual carbon allotment.

Kalmus also notes that “US landfills emit 1,300 kg [i.e. 1.3 metric tons] CO₂e per person per year. Let this sink in for a moment: our society has reached a point where even one person’s trash, taken by itself, generates more CO₂e than the average Bangladeshi generates for everything.”

While you might expect Kalmus to focus solely on personal actions, his chapter on “Collective Action” reveals that he has a more holistic view of the situation.

For example, he succinctly notes that “Global warming is a market failure. Burning fossil fuels imposes huge costs on society that aren’t included in the price of the fuels, primarily by causing global warming and respiratory illness. It’s crucial to fix this market failure because few of us will voluntarily stop burning fossil fuels in a society that still strongly rewards this behavior.”

As Kalmus notes, he takes up the question of activism, in order to “balance” his focus on personal action: “In this chapter, I’ve presented my opinions as a human, not as a scientist. Although my job is to do science, as a human I have as much right to respectfully express my opinions as anyone else. I’ve done so here in order to balance my emphasis on individual action and emissions reduction elsewhere in the book.

In other words, since the book and documentary *Being the Change* focus on lifestyle changes, we might assume that this is the sole contribution Peter Kalmus is making. However, if he had stopped at lifestyle changes, we would have never known about his actions. Consequently, he wrote the book and commissioned the documentary in order to spread the word.

In this sense, Peter Kalmus's principal form of activism is communication, not lifestyle changes. Indeed, as just one of nearly 8 billion people on earth, his lifestyle changes are virtually insignificant. However, as his book and documentary have reached many thousands of people, they are therefore far more significant.

I am interested to hear what you make of both Peter Kalmus’s approach to the climate crisis through personal action, as well as his underscoring of the need for activism.

Class discussion

(Note that the following observations, which are in italics, have not been paraphrased or altered, though I do correct the occasional typo and, because of space concerns, often just part of the comment is reproduced here along with my reply. In working through these, I will first quote an observation by a student, followed by my thoughts.)

When Kalmus admitted that one person’s reduction of greenhouse gas emissions may feel like a small drop of change in a vast sea, I didn’t really understand why it was so important to him to make these personal changes. Some people may ask, why make an effort when it won’t make a difference? But, I found that Kalmus explained it perfectly. One, he finds joy and a deeper

connection with people and the environment when producing less greenhouse gas emissions. Two, it aligns with his personal principles. Finally, he believes this really does help indirectly. I think Kalmus is right, showing others how much you care for the environment, will probably inspire them to change. Reading Kalmus' experiences, makes a sustainable lifestyle seem approachable and rewarding. He states that he spends \$4,000 per year on goods and even on the stuff he buys at target, which is something I relate to. He shows us that we can still buy the things we need and live sustainably. I also loved how Kalmus mentioned that his main food source comes from trading surpluses, freeganism, and growing his own food. As Kalmus states, a lot of the emissions of food comes from growing, processing, packaging, and distributing it, so I would love to expand my small garden one day to produce a lot of my own food.

This comment gets to the heart of *Being the Change*, as well as the question of what each of us can do to help mitigate the climate crisis.

In fact, this comment hints at the paradox here. *Being the Change* highlights all sorts of personal actions, from going freegan to drying your clothes on a line, yet makes clear that these personal actions are really just, as this comment notes, "like a small drop of change in a vast sea." Why, then, go to the trouble of doing them? As this person succinctly expresses this quandary, "why make an effort when it won't make a difference?"

As this person rightly notes, Kalmus has a variety of answers, but he makes a shocking statement in Chapter 1: I "reduced my personal CO2 emissions from about twenty tonnes per year (near the US average) to under two tonnes per year." As amazing an achievement as this is, it is not the shocking part. After all, we can all imagine making all sorts of sacrifices that would dramatically reduce our personal greenhouse gas emissions.

Here is what's truly shocking: Kalmus adds that "[o]verall, this hasn't been a sacrifice. It has made me happier." As the person who made this comment unfolds the idea, "he finds joy and a deeper connection with people and the environment when producing less greenhouse gas emissions."

In other words, even without the tremendous gains for the earth, its climate, and all its life, the changes that Kalmus made to his life would be worth it, as these, in fact, we're not sacrifices, but rather lead to greater happiness.

This runs completely counter to the belief that many people have, even if they have not given it much thought. Namely, that the personal changes that we (and by that, I mean people in wealthy countries like the US) need to make to address the climate crisis will, in fact, be profound sacrifices.

This is yet another example, and may in fact be the central example in a certain sense, of how personal and cultural changes addressing the climate crisis can be a win-win, as these changes will not result in inferior lives for us all, but better, happier lives.

We have already seen this with issues like educating women and girls and giving them access to family planning. Clearly this is a win-win, as it benefits girls and women as well as the planet.

Peter Kalmus is at once generalizing this basic notion even as he is making it deeply personal. The climate crisis is an opportunity to do just what Henry David Thoreau prodded us all to do: radically rethink our lives with the hope of making them more meaningful and simply better. Peter Kalmus and his family took up this challenge and did just that.

In the process, Kalmus and his family provide an example for the rest of us, which hints at the potential for systemic change, rather than just personal transformation. This not only includes wealthy countries like the US, as this is a new version of the American Dream that could potentially be exported across the planet.

Peter Kalmus in Being the Change, attempts to uncover the importance of individual action. Peter Kalmus decided to change his lifestyle for the sake of his children, he wanted a better world for them. Climate change is affecting all life on the planet, Kalmus wants his children to experience life on Earth without the worry of an end. Kalmus has a philosophy he follows which involves the head, hands, and heart. The head is for realizing from an intellectual, scientific point of view that there is a problem. Once the problem is recognized we can take action with our hands. The hands are used for gardening, fixing old objects, riding a bike, and much more. The heart ties the head and hands together. The heart is where meaning is found in making life more satisfying. In conclusion, taking part in environmentally friendly things equals a happier, more meaningful life.

Another perceptive comment.

Regarding the previous comment, this is a nice way of framing the issue, as Kalmus does indeed seem to be attempting "to uncover the importance of individual action" with respect to the climate crisis.

This comment also makes clear that Kalmus is looking, beyond his own life, to the future. If you recall, I have a small lecture series on climate and generation in which I argue that one of the fundamental challenges with the climate crisis is that it requires us to think beyond a single generation (i.e. beyond our individual lives). To Peter Kalmus - indeed to parents everywhere - children provide an opportunity and an impetus to do just that.

This comment also introduces the threefold approach to the climate crisis used by Kalmus: head, hands, and heart. As he explains:

"One is intellectual understanding: the head. The head allows me to prioritize. It helps me navigate to my goals, although I find it's not always good at choosing those goals. One of the lessons I've learned is that I'm limited, in time, energy, and ability; if I'm to make any progress, I need to choose my path wisely. This means asking the right questions,

gathering information about reality as it is (which is often different than how it appears to be, or how I want it to be), and drawing conclusions objectively. The head is a scientist."

Kalmus continues by noting that the second "part of my path is practical action: the hands. As we'll see, society's business-as-usual trajectory is carrying us toward disaster. If we wish to avoid disaster, we must take action. Since I can't change the entire global trajectory single-handedly, I perform practical and local actions, changing myself and how I live right here and right now. Direct practical action is empowering; it brings measurable, tangible change. It's fun, and therefore I can sustain it easily. It also provides its own guidance. Time and again I've found that only by taking a step - making some actual change - is the next step revealed. I find that all the planning and intellectualizing in the world can't substitute for just doing something. There's wisdom in doing."

And finally, he notes that a "third part of my path is seeing from the heart. This third part is what connects me to myself, to other people, and to nature. Without it, action can become compulsive, joyless. Connection brings purpose and meaning to thought and action. I have a specific and concrete practice for this third part: I meditate by observing my body and mind in a particular way. Meditation allows me to be joyful (most of the time) even while studying global warming every day at work. Meditation helps me connect to the sea of everyday miracles around me— the plants growing, the sun shining, my older son lovingly putting his arm around his brother's shoulders. I find great strength in this awareness."

Bringing it all together, Kalmus argues that "[t]hese three parts support and balance one another. In shaping a response to our predicament, each part is important."

I want to focus on one particular subject you have mentioned, which is Peter Kalmus' proposal of a carbon fee. Personally, I believe it's a great measure, but by no means perfect. For example, people may still choose to buy the taxed products if the corporations advertise them as being a necessity to people, and to cut the cost imposed by the taxes, corporations might choose to cut costs in other ways, such as choosing cheaper labor and resources, which is usually not a good thing. It is obvious that for the carbon fee to work most efficiently, corporation behaviors need to be strictly regulated, and the public needs to be more clearly informed about the environmental costs of each product. But even if the carbon fee plan has problems, it's still the best plan for now. As Kalmus has said in the book, he is walking the middle path, and a carbon fee would only be the first step. It has been proved effective in smaller scales, such as the example of British Columbia mentioned in the book. But clearly, to impose it on a larger scale, on the entire United States, there is still more work to be done, from the individual level all the way up to the government.

This is another apt comment.

At the risk of stating the obvious, one of the difficulties with voluntary action is that many people will simply not opt in. *You* may, for example, find the idea of slow travel intriguing and appealing. However, many people will simply find the whole idea ludicrous. How, then, can we convince them to swear off something like air travel?

This is where a carbon fee comes into play. As I noted in my lecture on air travel, on a personal level, there is simply no way to emit more greenhouse gasses more quickly than by air travel. While this is enormously disturbing, a carbon fee is tailor-made to address this problem.

A carbon fee would mean that we would pay for each and every pound of CO₂ or equivalent gasses that we emit into the atmosphere. As a round-trip transcontinental air trip causes more than a metric ton of emissions to be released for each passenger, the cost of each and every plane ticket would rise significantly with just a small carbon fee. If the carbon fee were increased to adequately reflect the climate damage done by air travel, the cost of the ticket would skyrocket.

Consequently, even people who would never voluntarily fly less would nonetheless be flying less – probably a lot less. It would also mean that they would be looking for less expensive alternatives to air travel. Because electric buses and high-speed rail can be powered by renewable energy, the cost of these would not rise as a carbon fee would presumably not significantly impact them.

Hence, generally speaking, a carbon fee would cause everyone (not just climate activists) to gravitate to climate friendly options, regardless whether it involves travel, housing, food, clothing, and so forth.

However, as this comment rightly notes, there will no doubt be all sorts of challenges to implementing a carbon tax - not the least of which being electing politicians willing to write the legislation that would put one in place.

A similarity I saw between Ken's lectures and from this chapter is reducing flying because of its huge impact. In addition, Kalmus provides good reasons of why he prefers slow travel that I think are underappreciated in our lifestyles now; he says slow travel allows him to connect with the local communities more while having more of an adventure. He also notes that flying can spread diseases in a pandemic- like we have witnessed with the coronavirus.

In my short lecture on flying, I introduced the idea of slow travel. If you are intrigued by the idea, [Peter Kalmus has a whole chapter on the subject in his book on *Being the Change*](#), which he opens with a wonderful little quote by the Buddhist monk Thich Nhat Hanh: "The miracle is not to walk on water. The miracle is to walk on the green Earth."

In other words, slowly walking through a place (rather than flying at three quarters the speed of sound over it eight miles up in the air), we have the opportunity to see just how wonderful and miraculous the earth really is.

Kalmus's chapter on slow travel (which, like the rest of the book, you can read free online) is an interesting one and a fun read. For example, he recounts how he hitched a ride on a cargo container ship from the Port of Los Angeles to Honolulu. After talking to the chief engineer on the ship, Kalmus was able to run the numbers, comparing his trip to

what it would have been if he had flown. He realized that "my emissions for the trip were 0.003 kg CO₂ per mile, 1% of the emissions had I flown."

As this comment notes, in his chapter on "[Leaving Fossil Fuel](#)," Kalmus makes a remarkably prescient statement in 2017: "modern air travel is the ideal way for a local outbreak to spread into a pandemic." During the COVID-19 pandemic, when new variants like Delta and Omicron were spreading, we became used to hearing statements like "the variant is now in _____ because a traveler had come there from _____." This was almost always someone who had traveled there by air.

While I was reading the chapters from Being the Change, I read something so pertinent that I stopped reading and put it in my journal. Kalmus writes: "If you choose flying, go forth and fly. But please don't pretend your life is sustainable". Ever since learning about the extreme climate impact of air travel, it's felt like forbidden information. If I didn't know how much GHG emissions I was directly responsible for when I travel via plane, then I wouldn't have to feel so incredibly guilty about it. One of my number one goals in life is to travel. In my dream life I'd never be sedentary; I'd be constantly nomadic, jetting off to a new place every month. Kalmus highlights the importance of personal action, and for my entire adult life I've agreed and tried to live as sustainably as I can. But then he really punches me in the gut. He tells me if I fly then I can't consider my life environmentally sustainable. He's right, and Ken is right and flying frequently isn't a goal I should aspire to. Maybe it's time to rethink my life goals. Maybe instead of visiting a new far-off place every month, my dream life consists of living smack dab in the middle of every continent for 5 years at a time. Then I only take a plane once every 5 years, and I can just train everywhere. That sounds really cool. This is the major theme I take away from the reading: in the future I can make choices that challenge cultural aspirations, but still lead to a fulfilling life (perhaps even more so than the status-quo). I want to live like Kalmus, he seems happier than most and he's actually making a difference in the world. I don't want to become somebody that says they care about the planet, but then knowingly takes selfish actions that harm it. I want to be the change.

What a great comment.

And time for a confession on my part. Although I have not flown for a number of years now, and I am more than a little critical of professors racking up air miles in order to attend academic conferences, I am actually looking forward to getting on an airplane in a few years.

Why? As I never tire of mentioning, I have a young daughter. I also have a sabbatical coming up, which allows me to spend a year doing research, including doing it abroad. So, when my daughter is a little older (perhaps around 11 or 12 years old), the plan is that my partner, daughter, and I will fly to England and then to travel around Europe and Asia (and perhaps even Africa) for a year via ground mass transit, which is generally far superior to what we have in the US. Of course, we intend to stay in specific places for quite a while.

Every now and then, I daydream about the details. For example, while it is possible to fly directly from LAX in Los Angeles to Heathrow airport in London, this involves traveling over 5400 miles. Alternately, taking a far more efficient approach to transportation, it is possible to take a train across the US and then fly from JFK airport in New York to London, which cuts the air miles down to 3400. This too can be bested: We could travel up to Canada and fly from St. John's, Newfoundland to Heathrow via Air Canada, which would cut the air travel leg of this trip down to 2300 miles.

Far from an inconvenience, I suspect that traveling across the US (and perhaps Canada) would actually be a wonderful way to start the trip. Even today, decades later, I still fondly remember when I traveled across the US by way of train, which coincidentally was when I was 12 years old.

My point in mentioning all this is that living sustainably does not mean that we have to completely cut out even something as environmentally disastrous as air travel from our lives. Of course, it would be terrific if our country committed itself to crisscrossing the US with high-speed transit powered by renewable sources and if we developed efficient ways to take a ship from North America to Europe.

But in the meantime, it is actually possible to reduce our climate footprint from air travel by a factor of 10 or more. And, it is embarrassingly easy to do so: just fly one tenth as much!

If my daughter were to take a yearlong trip like this every 11 or 12 years (perhaps by taking a gap year after college to travel for her next one), on average, one month out of every year of her life would be spent traveling, yet her air travel would be just one 12th (around 8%) of what it would have been if she made a similar trip by air every year, all things being equal.

As the person who made this comment aptly notes, "Maybe it's time to rethink my life goals. Maybe instead of visiting a new far-off place every month, my dream life consists of living smack dab in the middle of every continent for 5 years at a time. Then I only take a plane once every 5 years, and I can just train everywhere. That sounds really cool."

It does indeed sound really cool.

In fact, as opposed to those silly five-countries-in-five-days vacations, this would be a far better way to truly experience a place and get to know its people, animals, plants, history, geography, and so forth.

In a general way, this returns to the perhaps surprising message that Peter Kalmus has for us: while living sustainably may initially seem like we will be required to do without (things like travel), in fact, if we are thoughtful and creative, we can not only still enhance our lives and experiences like travel, but we can make such experiences happier and more rewarding.

This reading (and the film) shows how everyday people can change their habits and practices in order to help the planet. I thought it was interesting to see how to calculate my footprint, although I am terrible at math and have not been keeping track of how many miles I drive, how many times my family does laundry in a month, etc. Websites that show your carbon footprint are really helpful in that regard...

At the risk of being a spoiler, the assignment for Week #10 of Eng 24 will indeed be to use a website to calculate your individual carbon footprint. Stay tuned!