FREE FORUM with TERRENCE McNALLY - A WORLD THAT JUST MIGHT WORK

BILL McKIBBEN – HERE COMES THE SUN

Transcript – Conversation recorded 09-18-2025

Terrence McNally:
Hello, I'm Terrence McNally. Welcome to Free Forum: A WORLD THAT JUST MIGHT WORK. This episode was recorded as a LiveTalksLA event September 18th 2025 in Santa Monica, California. In it, I speak with author and activist, BILL McKIBBEN, about his new book, HERE COMES THE SUN. You can learn more at billmckibben.com and thirdact.org

On Free Forum we explore the lives, the work and ideas of individuals I suspect hold pieces of the puzzle of a world that just might work. We look at politics, economics, environment, science, health, and culture - all based on the fact that I believe we can do better and I want to find out how. The show streams weekly on the Progressive Voices Network on TuneIn.com Podcasts are available anytime anywhere on Apple Podcasts, Spotify, most major podcast sites and at my site, terrencemcnally.net.

For Christmas thirty-five+ years ago, my younger brother gave me Bill McKibben's book The End of Nature - the first mass audience book about climate change. What Bill has done in those thirty-five+ years is remarkable. His contributions regarding climate go beyond his 20 books and countless articles – though one in Rolling Stone - 2012's Global Warming's Terrifying New Math changed the way many looked at energy reserves and made the case for the fossil fuel divestment movement.

He's co-founder of not one but two activist organizations – in 2008 the global climate campaign 350.org - among the most effective climate or activist organizations in the world, and in 2021, ThirdAct, the pro-democracy, anti-climate change organization for folks 60 and older.

He's the author of 20 books, My favorites are THE END OF NATURE and DEEP ECONOMY. At a time when so much can feel dark, his new book HERE COMES THE SUN, offers hope – but not with happy talk. It begins with a clear declaration of facts and includes marching orders for action.

Good evening, BILL McKIBBEN. First of all, I just want to say what a pleasure it is. We've done interviews over the years many times. Our earliest was 2002, but this is the first time I think in person and certainly the first time at Live Talks LA.

I like folks to get a feel for the people behind the work and the ideas and the books and things that we talk about. And the question that I've asked you before, but I think is such an interesting one is how you mix being an author, a writer, kind of a solitary profession with being an activist.

Bill McKibben:
That's a good question. And I'm, in many ways, an accidental activist. The thing I know really how to do in the world is write. And that's what I did for a very long time. But when I was writing *The End of Nature*, when I was 27, I guess, it became very clear to me that I was no longer objective in the way that newspaper reporters were supposed to be. I cared about the outcome. I did not want the planet to overheat and the climate system to be destroyed. But for the next 10 years, I kept just writing and speaking because I think, like many writers and academics - which I sometimes am too - our sense of the world is that we're engaged in an argument, and if we win the argument, then the leaders of the world will do what they should.

And it really took me a while to figure out that we had won the argument. There was no doubt what was happening with the world's climate, but we were losing the fight, because the fight - what do you know - was not about data and reason and evidence. You had to win the argument, but you could still lose the fight, because it was about what fights are always about: money and power.

And we were going to have to assemble some power. And it wasn't going to come from billions of dollars the way that it does for Exxon. It was going to come from building movements. For my money, the two great inventions of the 20th century are going to turn out to have been the solar cell and the nonviolent social movement. And I think it will be some combination perhaps of those two things that bails us out if we do indeed get bailed out.

But that's when I, against my instincts, started to build organizations. And in that work, my only guide really has been Tom Sawyer, the whitewashing of the fence scene, where I do my best to make it seem like it might be a good and interesting thing to do. And then happily, enormous numbers of people - like the Third Actors who are here tonight - appear to actually do the work that I have suggested. In those ways, it's been a really very beautiful quarter century of that kind of work. But you're right, it doesn't fit my nature. At heart, as much as I enjoy being here with everybody, given my druthers, I'd rather be home typing. That's really who I am.

McNally:
Sweet spot. I want to mention two things before we get any further. One is just a personal note. I learned that you actually, as a very young child, lived in Altadena.

McKibben:
The house of my earliest boyhood memories actually burned down on day two of the fire. So yeah. I was five when we left California and returned to the East Coast, but I do have a kind of natal affection for the Golden State and all its extraordinary beauty.

McNally:
And the other thing is, to say that I am a member, a volunteer, quite involved with Third Act. I help write the newsletter for Southern California. And for any of you who

are not, if you qualify - that is, if you give a shit and you're 60 or more - I highly recommend it.

I remember I went to an event at UCLA a long, long time ago when you first came out here with some of your co-founders of 350. That has been an enormous success. Can you talk a little bit about 350.org and how you decided to make the transition to Third Act.

McKibben:
Well, 350 happily is in good stead and is doing fine. I organized a lot with young people, which I love doing. It's a wonderful privilege to get to do that. It was a wonderful privilege to be in this auditorium this afternoon talking with the whole senior class from this high school (New Roads) and we really had a good time.

But I heard there was so much good organizing going on among young people, especially at the height of Greta Thunberg's advocacy, that I heard a few too many people my age basically say, "It's up to the next generation to solve these problems." Which (a) does not strike me as particularly morally defensible stance, but (b) also strikes me as highly impractical. In this work, I've learned that structural power rests very firmly in the hands of older Americans.

Much of the country's resources have ended up in our hands. We have a lifetime of skills and connections, and we're politically powerful even beyond our numbers, just because we all vote. There is, as I have said, no known way to stop old people from voting. As we were first talking about building Third Act, people said, "It won't work because people become more conservative as they age," and so on.

And that may have been true at some point in history, I don't know, but I think very much not true with people our age right now, because if you are in your Third Act, if you're in your 60s, 70s, 80s now, it means that your first act was in the moment of great social and cultural and political transformation and liberation in the 60s and 70s. …I mean, you were at Harvard in 1969 during the great strike. I think that that's sort of muscle memory, generational DNA.

McNally:
I ask, "Can we live up to our early promise?"

McKibben:
So it has proved to be.

We've got 100,000 people now, the working groups that people have put together and built, are doing extraordinary work. And it turns out that in an American democracy that so many people have given up on, a group of four or 500 people emerging in Kentucky, in Northern California, in Vermont, in any place, is enough to exert extraordinary power in state capitals and city halls and things. That's one of the secrets of American politics. So few people are actually engaged in it that if you get

in, you can have tremendously outsized influence. The right figured that out 25 years ago and went to work on it. And that explains a lot of where we are now.

... The thing that I hadn't figured out when we started 350, though I should have, because it's just a mathematical truism. The one problem with organizing young people is they don't stay young very long. Next thing you know, they're 25 and having a kid or absorbed in their career or whatever. If we can organize people when they're 60, just statistically, they may be doing this for the next quarter century. Good investment. That's very heartening to me, but it's really very heartening to young people.

We talk all the time about the climate anxiety and despair among young people, which is very real, but it's my experience from talking to kids a lot is that it's not rooted as much in a fear of what physically is going to happen on the planet as it is in a sense that they have been abandoned to deal with it on their own. And the kind of palpable relief when ...

I've told the story often about the first demonstration we did at Third Act even before we had really formed. We were just in the process of fleshing out this idea, when a group of young people from Greta's Fridays for the Future Movement called up and said, "We want to take on these banks that are funding the fossil fuel industry, but we don't have credit cards or checking accounts. Will you come help?" And I was like, "Whatever else you can say about us, we definitely have credit cards, so we will be there."

And we had a demonstration in Boston, and there were 300-400 high school kids there because high school kids, as I was reminded again this afternoon, fully understand the barrel of the gun down which they are staring. They're somewhat sprier, so they were at the head of the march. And at the back of the march, there was a group of us from this nascent Third Act with a banner that just said, "Fossils against fossil fuels." And the kids were like, "Yeah!" They were pumped up about it. So that's the spirit in which we've tried to operate all along.

This book is very odd for me because my general role in the world has been as a bearer of bad news, a professional bummer-outer of other human beings. And there is more to be bummed out about right now than any time in my life by a large margin. Not only is the planet's climate system in a state of extraordinary crisis and worse with each passing week happening, the degradation now in real time, but also of course, our democracy is flickering and faltering in ways that I think none of us ever quite imagined.

And it's more, again, every hour. The thought that the President of the United States is now firing the hosts of late-night talk shows because he doesn't like the jokes they've made about him is so incomprehensible to how we conceived of America until a few weeks ago that it's easy to be completely stunned by all of that.

And I actually think that the strategy is to do things so rapidly and aggressively that we end up stunned. In the midst of all that, there is this one big good thing happening on the planet, and it's really only happened over the last 36 months or so: this sudden explosive growth of clean energy around the world. And it's such a big and good thing that I think it's capable of taking a bite out of not just the climate crisis, but the authoritarianism crisis at the same time.

And so we want to drive this idea as powerfully as we can into the body politic. And if I had to sum up the thing that we want to accomplish, and the reason I wrote the book and everything else, is to just get across the idea that what we've called alternative energy for the last 40 years is no longer the alternative. It's the obvious, common sense, straightforward way to power the planet. 95% of new electric generation around the world last year came from the sun, the wind, and-

McNally:
95% of new generation…

McKibben:
Yeah. The world produced a third more power from the sun this summer than it did last summer. We're on the very steep part of this S-curve, and we have to accelerate. We have to keep that exponential growth going. And if we can, for even four or five years, we will have reached a point where, (a) we've broken the political power of the fossil fuel industry, and (b) we've really reset the trajectory for ...

We're not going to stop global warming. That is not an option on the menu, but we can, and I think we'll be able, hopefully, to start shaving tenths of a degree off how hot the planet gets. And every 10th of a degree that we raise the temperature takes another hundred million of our brothers and sisters out of a safe climate zone into a dangerous one.

So really, nothing else that humans have ever done in their lives is as important, has as much leverage as reducing the temperature four or five tenths of a degree that we eventually are going to settle at. So that's the reason that I wrote the book. It's a very practical utilitarian economic argument rooted in the fact that as of about five years ago, this is the cheapest way to make power on the planet.

McNally:
It was the cleanest. It's now the cleanest and the cheapest.

McKibben:
Exactly.

McNally:
And it occurs to me that when we say cleanest, that reduces the costs afterwards, the health costs, all of those things.

McKibben:
We were talking about that earlier today. By any rational economic calculation, we should have done this 40 years ago. The price of raising the temperature of the earth exceeds any economic ... If you had to pay 10 times as much for solar energy, it would still be a great bargain compared with having to pay for a fundamentally broken world, but we weren't going to do it until it passed that line. And now we live on a planet where the cheapest way to make power is to point a sheet of glass toward the sun. But the thing that writing the book really made me think about and understand in a deeper way is that that's only half of the appeal here. The other half is that this is a very different way and a very liberating way of starting to produce energy.

We've relied on an energy source, fossil fuel, that's only available in a few places, so it's easy to control by a few people, and it's very susceptible to being held in reserve, hoarded, and doled out over time. And what we can replace it with is an energy source that's available literally everywhere to everyone that can't be held in reserve. Just do the thought experiment of thinking about what the politics of the world would have been like over the last hundred years, had if oil been of relatively trivial value.

How many wars, coups, assassinations, terrorist plots, everything else might we have avoided? How much inequality might we have avoided? The first modern plutocrat, the first oligarch, was John D. Rockefeller, because he figured out that control of fossil fuel was the ticket to hitherto unknown amounts of money and power. And the people who followed him have been much worse than he was.

In this country, our biggest oil and gas barons for the last 30-40 years have been the Koch Brothers. They own more refining and pipeline capacity than anyone else, and they've used their winnings to systematically erode our democracy. If you wonder why it was so easy for Donald Trump to kick over the pillars of our country, it's because they were rotten. They'd been rotted out systematically from within for a long time.

McNally:
Right. They didn't even just use that wealth to concentrate their power in the fossil fuel industry, they decided they were going to remake society.

McKibben:
Yes. And look at Europe. The biggest oil and gas baron is Vladimir Putin, who's decided he's going to remake the map of Europe. And as of last week, was probing the defenses of Poland with his drones. Anyone who's even thought a little about the history of the 20th century, the idea that Russia is currently probing the defenses of Poland should send a significant chill down your spine.

Humans are very good at starting wars about lots of things, but I think they will be hard pressed to figure out how to fight one over sunshine. I think it's a very different world on the other side of this. And I think this is the single physical thing we could do

most likely to kind of erode and subvert the current balance of power. In so many ways, it's liberating and it's even, I dare say, quite beautiful.

We were doing a playlist the other day for song songs on Spotify about the sun. There was almost literally an endless list. I obviously stole the title of the book from George Harrison, and that's in some ways the most beautiful, and by far the most streamed of all the songs in the Beatles catalog by a large margin. But there are a hundred other great ones if you start thinking for a minute, Stevie Wonder and Bill Withers and everybody who's in the pantheon. It really drove it home to me when someone said, None - because I think that we're just literally over time drawn to energy from heaven instead of hell.

We obviously don't know how prehistoric people really thought about the world, but the evidence that they've left behind…Every interesting pile of rocks seems to line up with the solstice or the equinox. It seems to have been top of mind for people as far back as we can go. And I think that there's a deep beauty about our local star, which already gives us light and warmth and via photosynthesis our supper, also being willing to provide all the power that we could ever need. It allows us to think about restarting what seems to me a fairly broken civilization at this point on somewhat new terms. And since I now have an 18-month-old grandson, i.e., I know and love someone who will be alive in the 22nd century, it seems incumbent to try and figure out if there might be some other terms that might not be the dismal era that it currently seems slated to become.

McNally:
You have a great supermarket metaphor about the energy transition, which I will allow you to say rather than me.

McKibben:
I was in Portland yesterday and was wandering around and went into the Whole Foods. We don't really have any of that in rural Vermont where I live. The way that I've been explaining where we are, is just to say, we've for a long time thought of alternative energy as the Whole Foods of energy. It's nice, but pricey, kind of for special people, when in fact it's now just the Costco of energy. It's cheap. It's available in bulk. It's on the shelf ready to go. And I think if we can get that across, it'll really help.

One of the things that's so interesting about all this, is the degree to which a lot of the affection for solar energy in particular crosses ideological and party lines because it can mean different things to different people. I've lived in rural America my whole life, some of it in a blue state, Vermont, but much of it in red districts. I spent much of my life in Elise Stefanik's district in upstate New York. So I have lots and lots of Trumpy neighbors, lots of people with Trump flags in their home, and people I'm in the volunteer fire department with or whatever. And a lot of them have solar panels on the roof.

When I talk to them, I know why they do. It's not because they're worried about climate change. It's because my house is my castle, which I'm completely prepared to Now, that's not why I put up my solar panels a quarter century ago, but I'm enough of an American to understand that feeling - not the AR-15 part necessarily - but I like feeling like my house is my place and I love the fact that I can produce the power that I need in the same way that I love the food from the garden.

So I wrote a piece last week for *The Guardian* saying the people who should be most attracted to solar panels - and who increasingly are - are sort of nutty right wing preppers, because if you really think that you're going to be holed up in your bunker for a long time… If you go on the prepper forums and things on Reddit, you see endless discussions by people about how they're going to keep their diesel tanks working. What if they grow algae/? Here's the algacide you should pour in them, on and on and on. It's just like, what are you talking about? If you get solar panels on the roof, you're never going to have to...

I went back and watched the *Mad Max* movies from the early 1980s and the plot points are all about crisscrossing the desert to try and find derelict oil tankers so that you can get more oil. That's what they're fighting over all the time to maintain their stuff because these were made in 1980. Well, if you were making those movies in Australia now, 40% of homes have solar panels on the roof. Mad Max would be Chill Max, "Whatever… World's coming to an end, but I can run my pina colada machine off my solar panels on the roof, everything's good on." Like any truly huge transformative thing, it has lots of different possibilities.

If you have a solar array, it produces two things. One is electrons and the other is shade, which on an overheating planet is a really interesting commodity because shade means, among other things, moisture retention. There's just been a series of studies that Californians will be interested in, showing that in desert environments, retained moisture that comes from that shade is allowing the biotic crust, the fragile desert biotic crust to grow much, much faster, and we've lost this over much, much of the world. It's growing, regrowing very quickly both in American desert and in the Chinese desert where we have a much bigger set of data to draw on.

But in agricultural places, this is like a whole new *tabula rasa* for a whole new human endeavor currently operating under the very awkward name of agro-voltaics, but completely fascinating. In Vermont, where I live, what we do with a lot of the solar farms is plant the space in between the rows with pollinator friendly flowers and weeds. And the number of pollinating insects goes up a hundred times above what it would be in a cornfield or something, which is astonishing because we need a lot more pollinating insects.

The farmers around the edges of these things report that fruit set in their orchards goes up 35, 40%. It's kind of a miracle to watch. Plant these things and then lots of insects that people thought had been extricated from Vermont… Somehow news spreads on their networks and they appear out of nowhere and are back.

I was just writing the other day about a new series of studies from France demonstrating that yields for wine grapes are up 60% when they're grown in and amongst ... I mean, I'm a beer guy, so what does this do for me? Nothing. But I know that Californians have affection for ... And so there's so many interesting things that happen when you start imagining something past the kind of monoculture of energy that we've existed with for ... And instead, a kind of flexible, nimble use of the sun and the wind and the batteries to store their power when the sun goes down to the wind.

McNally:
And as we sort of glance over at one point, when you decentralize the fuel power, you decentralize the political power.

McKibben:
Exactly.

McNally:
And a society that moves in that direction is where I think an awful lot of people want to go. I want to talk about other countries briefly, except before I do, I just want to touch on one thing that's very local, which is Prop 50.

McKibben:
Prop 50. Okay.

McNally:
Since, as I said, Third Act is a democracy and a climate movement.

McKibben:
Winning the midterm elections appears to be the last avenue of some hope for slowing down this craziness that we're living through. Yeah. I mean, I'm grateful that California took a lead in independent districting and non-party, but that's not the game that's being played right now. And if someone ... I won the Gandhi Peace Prize. I have a kind of nonviolent bend, but if someone smashes you in the face, you have to figure out some way to keep them from doing it over and over and over again. And this strikes me as a completely justified way to do it. We'd be doing it in Vermont too, but we only have one representative, so there's no use redistricting or ... I didn't realize that. Wow. But we have two senators, just like you guys.

I have no idea why California puts up with the United States. And my guess is that if things continue on the current path, California won't put up with the United States forever.

McNally:
In the green room, he said he assumes we'll secede at some point, which opened my eyes.

McKibben:
In Vermont's defense, I will say that, I mean, we have done a good job with our two senators. That's true. They've been helpful to the rest of the country.

McNally:
I once actually said to Bernie, "Just consider yourself the third Senator of California."

McKibben:
There you go.

McNally:
Come out here and raise all the money you want.

Briefly, because there's so much to talk about… some other countries. So China…?

McKibben:
When historians look back at the last six months in our country, they'll talk a lot about the demise of, at least temporarily of democracy here. But I think that probably in world historical terms, the main thing that's happened in the last six months is that the United States has effectively conceded the technological, economic, and therefore probably political future to China. We've decided to try and get the last dregs of wealth that are going to come out of 18th century technology. And we've given them free reign on technology invented in the United States, but now of literally no interest to us, to the White House.

The first solar cell, 1954, Edison, New Jersey, Bell Labs, funded basically by Americans dropping dimes in payphones. The first commercial wind turbine, 1943, 30 miles south of where I live on the spine of the green mountains. These are things that American ingenuity of that amazing era produced. And I mean, now, literally two weeks ago, we shut down work on a 90% finished wind farm off the coast of New England. We're basically ready to plug in and go. Billions of dollars invested, tens of thousands of people at work just stopped for no reason that anyone's even bothered to explain beyond the fact that the fossil fuel industry is scared of renewable energy and the president is still pissed off having to look at a windmill from the ninth fairway of his Scottish golf course. I mean, that's almost incomprehensible.

In fact, if it continues, it really will be incomprehensible. Thousand years from now archeologists will be scratching their heads to explain why there are a series of odd, pointless pylons in the Atlantic Ocean. “Was there some odd religious cult…?” And the answer to that will be sort of, “Yes, there was.”

If we keep it up, 10 years from now, if we still give tourist visas to people to come here, it'll be to look at the colonial Williamsburg of internal combustion to see how people did things in the olden times, because the rest of the world is moving dramatically in this direction.

So China is producing huge amounts of clean energy itself, but it's also now exporting that technology down all its trade routes. So one of the stories in the book is about what happened last year in Pakistan.

McNally:
Yeah. I definitely wanted you to tell that one.

McKibben:
Pakistan is the country hit hardest by climate change of any on earth, just desperate. Right now there's another big flood in the Punjab and a lot of people out of their homes and the temperature in its cities is routinely 126 degrees in the summer, just at the literal edge of human ability to survive.

Their one geographic advantage is a long border with China across which have begun to flow these cheap solar panels. Lots of people exporting them because Pakistan's electric grid is expensive and unreliable. So there was a ready market. This was not a government program, but you could watch just from Google Earth, the tops of buildings in Karachi and Islamabad last year, every flat surface getting ... And it was just people buying these things, going on YouTube and TikTok and watching videos about how to snap them together and doing the work. They built the equivalent of half the country's national electric grid in eight months out of solar panels.

McNally:
This is a country of 100 million - half of its grid in less than a year.

McKibben:
And Pakistani farmers, for whom diesel is often their biggest input, because from the Green Revolution you've got deep tube wells that you need to bring water up for irrigation. They were early adopters here. They usually lacked the money to build the racks so they just laid them on the ground. Pakistanis used 35% less diesel last year than they did the year before.

In the last six months, we've seen about a 60% increase in the spread of solar into Africa along all the Chinese trade routes through this area. And that's significant and also beautiful because there are 600 million Africans without real access to electricity. Fossil fuel had 250 years to reach them and do something about it, and it did not. So now they're getting their first power from the sun.

I've been all through that part of the world watching this happen. Here it's great, but it doesn't change your experience. You flip the light switch and it comes on, whether it's coal or solar power that's doing it. But there… In a village in Ghana that had put up its micro-grid solar panels the day before, I vividly remember sitting with the village elders who kept giving me cold bottles of water to drink. Since I'm a Vermonter, the heat of Ghana is bad, much more than I can handle, so I was very grateful for all these cold bottles of water, but it took me - in my clueless Western way - 20 minutes to figure out that the reason they were so proud to be doing this was that until the

day before, there had never been anything cold in that village. They'd never had a refrigerator.

The real reason, the deep reason that they wanted a refrigerator was so that they could keep vaccines refrigerated. I did not meet anywhere in Ghana any anti-vax. These are people without the luxury of becoming nutty in some of the ways that we have now decided to become, but they also had some popsicles and stuff. And you just got some sense of what a great thing it is to have some electricity to work with.

I've spent a lot of time in China. I'm glad that that's not where I was born, because if I'd pursued the work that I have pursued in my life, I would've spent it rotting in jail in China. That may happen here too at this point. In terms of responsibility to the rest of the world, I'm not prepared to make the argument that it's a great shame that China is going to be leading. They're doing stuff that's going to be of great help to the rest of the planet, and we are not.

It's going to be very weird to watch the global climate talks this year in November in Brazil. And for the first time, the US will not be participating in any way. The country that poured the most carbon into the atmosphere is now officially the only country not participating in the global effort to do anything about it. That's bad, but I actually suspect that the global talks around climate will become much more fruitful going forward without us in the way to prevent certain kinds of progress. We shall see.

McNally:
For it to be a treaty, you would have to get two thirds of the Senate, right? So as you say, they all knew that wasn't going to happen. After Kyoto, everyone figured that out, so the best we could do was compacts and voluntary agreements.

McKibben:
This is very painful for me to say because through it all, I'm somewhat of a patriot. I grew up in Lexington, Massachusetts. My summer job was giving tours of the battle green where the first shots of the revolution were fired. I take with great pleasure, the idea that this country was the place where people first started rejecting the idea that kings should rule people, and instead asserted that people were capable of ruling themselves. That is one of the most important ideas that ever got let loose on this earth, and it got let loose here first.

And that's what, I think, makes it doubly painful to watch that idea being now systematically trashed and undermined, and why we will do everything we can at Third Act to see if we can still arrest some of that slide. But in the interim, I'm very glad that China is doing what it's doing for all the reasons that it's doing it, some of them entirely selfish and some of them perhaps not.

McNally:
I shared with Bill earlier that I'd worried that China would be the one that would end up saving us, and asking what would it mean if it took authoritarianism to save us?

Sadly events have overtaken that concern. We now have the authoritarianism here. We just lack the future vision that China has.

I think we've got to open it up to you folks for Q&A.

Questioner #1:
Can you talk about how batteries play into solar… in terms of storage or otherwise? And are there concerns with rare minerals and all that stuff.

McKibben:
Batteries are a completely crucial part of this. It's funny… the Secretary of Energy, who spent his life as a fracking executive, tweeted out two weeks ago, "Solar power doesn't work when the sun goes down." Yes, other people had actually noted that over time, and so we had this invention, the battery, to help deal with this. Batteries have gone plummeting down in price on the same steep curve as solar panels and wind turbines, and that plummeting price continues.

It's really important - this is kind of an aside - but just to understand the difference between old energy and new energy. All the stuff that we've used all our lives - coal and gas and oil - are commodities, and you just get more of them and set them on fire. They were pretty cheap to begin with. They're still pretty cheap, although they get a little more expensive because you have to go further back in the mine to find the coal.

McNally:
…Or deeper in the ocean.

McKibben:
Yep. All the parts of renewable energy aren't like that. You do have to have some minerals to make them work, some lithium or whatever, but it's an entirely different proposition. You go get some lithium - and we should mine it as sanely as it's possible to do it - but mining stuff is always going to be just gouging the earth to get stuff that you need. So it's never going to be great. But you put the lithium in a battery and there it lasts for 25 years till the battery degrades.

And, because lithium's valuable, we're good at recycling it. So you just get it out and start over again with the next battery. When you mine coal, you set it on fire, and then you have to go mine some more the next day. That's why the Rocky Mountain Institute last September put out a study saying the amount of mining you'd have to do for the whole battery transition by 2050 is less than the amount of coal we mined last year on this planet.

I keep this in my mind as a sort of mnemonic: a boatload full of solar panels over its lifetime will generate 500 times as much energy as the same boat filled with coal. That gives you some sense of the change in kind that we're talking about here.
So yeah, there's no free lunch here. You do have to mine some stuff, but there are

definitely less expensive and more expensive lunches. And this is the less-expensive-by-a-large-margin lunch. Even before you count the cost of how much damage you do if you heat up the planet, and even if you ignore - which we shouldn't, but we often do - the fact that nine million people die every year on this planet - one death in five - just from breathing the particulates that come when you burn fossil fuel.

But that' beginning to change. 10 years ago, the list of the dirtiest cities on planet Earth was all cities in China, one after another. Now there are no cities in China on that list. Not only are they much cleaner… I've talked to lots of people in the last six months.

I haven't been to China for a little while, partly because I wrote a fair amount about Tibet, so I'm not sure that I'm completely allowed back in at the moment. I'll find out at some point.

But I've talked to lots of friends in China in the last six months who say its cities are not only cleaner, they are much, much, much quieter than they were because more than half the cars sold in China now come with a plug. And within three years, it'll be 100% of cars sold in China because they're the best.

And if they were allowed to sell those cars in America… You can buy a really good $10,000 EV in China right now. And if you have $30,000 to spend on a car, which is less than the American average for a new car, you can get a car better than any car you've ever dreamed of. Detroit is not the center of the automotive world. As of about the last 18 months, it's three cities in China whose names are difficult for me to pronounce. That's where the cars that the rest of the world wants come from. It's fascinating to watch that change.

McNally:
There you covered two of the obstacles people will raise. One is storage and the other is mining. The third is land, so do that one.

McKibben:
We talked a little bit about agro-voltaics, We're going to have to take up some land to do this. Mark Jacobson at Stanford, a great hero of all this work, says it's about one-and-a-half to 2% of the land surface of every country on earth required to do this. That does not seem to me too much to take for producing this commodity that we use in such abundance – energy - especially since we use huge amounts of our landscape for energy right now.

The biggest crop in America by far is corn. We grow 60 million acres of it. 30 million of those acres are used to produce ethanol. The ethanol, the gasoline that we grow on those 30 million acres, provides 3% of America's energy. If you took that 30 million acres and covered it with solar panels - which is not what we want to do because we don't want to carpet Indiana with solar panels - but if you took that same 30 million

acres and covered it in solar panels, it would produce not 3% of America's energy, but 100% of America's energy.

This really was driven home to me last summer in a cornfield in Illinois. I was with a farmer who was converting part of his farm to solar panels. He's like, “Look, this acre is in corn. It produces enough ethanol every year to drive my Ford F-150…” - most popular vehicle in America for the last 45 years - “…25,000 miles, so nothing. This acre over here, I'm putting in solar panels, and it will produce enough electricity to drive my Ford F-150 Lightning, the EV version of the same truck, not 25,000 miles, but 700,000 miles.”

Photosynthesis is a great miracle, but not a particularly efficient one. A solar panel is 20 times more efficient in taking the sun's energy and converting it. And as he also pointed out, I don't need to pour large quantities of nitrogen and phosphorus onto my solar panels to make them work. Stuff that washes quickly from Illinois down the Mississippi into the Gulf of Mexico, where it creates the vast dead zone that kills off all aquatic life. I don't need to spray with herbicides and pesticides to make the solar panels work.

In fact, as we said before, we have half the field left to play with in interesting ways. You see a lot of pictures of animals grazing in the shade between solar panels. If you have a mind to do this, it's a good thing to do. But one thing I did learn from talking to a number of people who've experimented with it is, do not put goats in your solar farm. They eat the cables and they like to try jumping up on the solar panels. So goats and solar energy, not a good mix. Okay. You heard it here.

Questioner #2:
Hi, Terrence and Bill, good to see you both. Thank you for being here. There's a phrase that “who controls the story, rules.” How do we get this story out knowing that this particular administration absolutely wants to control information?

McKibben:
Yes, and they're doing a heavy-handed job of it at the moment. Trump-friendly billionaires are within a few weeks going to own CNN and TikTok. They've owned CBS. They've obviously intimidated ABC. *The Washington Post* has become a sad relic of the paper that once stood up to presidents, on and on down the list.

So we have to do what we can. And we do have some advantages that we can work with in spreading information. So, for instance, Terrence has - like 60% of Americans - a podcast, and his is terrific and very much bears listening to, and there's a lot of other terrific ones too. It's become an independent way to spread information.

I publish this free Substack newsletter. Probably because it's free, it has 100,000 people who get it. Every time I hit send and 60% of them open it and hopefully read it. 100,000 approaches the circulation now of a number of metropolitan dailies in this

country. The *LA Time*s, historically one of the great papers in our country, can't have more than 400-500,000 subscribers. I doubt they even have that many, I fear, anymore.

So we do have ways of getting information out, but it is harder than it should be. But you're right, the most important thing is control of the story, of the narrative. So you've got to be good at telling that story. That's why I keep talking about alternative energy and why that's not the frame to use and how we're going to get past that.

No guarantees. And the odds are obviously stacked against us, but weirdly, the polling continues to show that solar power is immensely popular - and across party lines. The Trump guys have driven down some of the support among Republicans, but it remains very popular even among Republicans for the reasons I think that we were talking about before.

They have a hard job. Nobody likes oil companies or utilities - it's not just PG&E - utilities everywhere are completely unpopular. So it's not as if we have an impossible task here, just a difficult one.

Questioner #3:
Hey, Bill. You said that you're a beer guy, so am I. And I think beer is a great way to connect with people, especially those across the aisle. So my question is, what are some names that come to mind that you would like to have a beer with from across the aisle that can be potential climate champions?

McKibben:
I don't know about climate champions. And it's obviously a very difficult moment to cross because Trump has done such a good job of intimidating... There's a kind of mean spiritedness that's at work in the world, a kind of celebration of cruelty that makes it more difficult than it's ever been to have those conversations. But we do have to have them.

I look at the people I know who are good at having those conversations. Bernie, who is an old and dear friend, he's done a good job of going on Joe Rogan and talking about all kinds of things and meeting with a good reception. You need to be - as Bernie is - grounded in a set of beliefs. For whatever his uses and abilities and things, Chuck Schumer is not grounded in a kind of worldview that... I don't know what he would talk about if he went on Joe Rogan. But I think those kind of conversations are within the realm of possibility.

It's been really interesting this year to watch the rise of Mamdani in New York. He's a fascinating political character who's going to trounce the kind of old school that Andrew Cuomo was the perfect representative of. And he's going to do it in part because he shares a certain - though they're 1000% different - he shares certain of the things that made Trump a powerful political figure. He has a kind of energy about him. In his case, a quite beautiful one. He clearly loves being in New York, which is a

good thing. Many of the people who run for mayor in our cities, their basic message is, "This city is a hell hole and only I can figure out how to ... " But he clearly loves where he is.

And he's not the only one. I was just writing a little piece with *The New Yorker* these past days … I think the Democrats may find their future in these mayors around the country... We were just talking about my very favorite of them, Michelle Wu in Boston, who I think - if we ever get our democracy back - will be President of the United States someday. She is a great politician and a great mayor. Boston has had 11 murders so far this year. It's the safest city in the entire world and not particularly ideological.

It would be a mistake to read what Mamdani's doing, his popularity and say, "Yes, what we need to do is be super populist and progressive." We need to actually communicate with each other about things that are real, like affordability.

One of the things that I really like at Third Act, is that - though we're all older - one of the precepts that we operate under, I think, is this desire to see a new generation of politicians and leaders arise. One of our jobs, I think, is going to be helping ease out of the limelight some of the very old people...

I remember when it was pretty clear that Diane Feinstein probably shouldn't be doing her job anymore. We wrote her a letter saying, "You don't have to give up politics. Come work with us. We're doing all kinds of fun stuff. Just let someone else be Senator for a while." I think that's one of the roles that we've taken on.

I don't think that there's a conversation really to be had with the Trump administration and the people around them. I think they've made up their minds that they're going to go for power over everything. And I think their response to anyone who might interact with them begins with ridicule and scorn and moves quickly to putting them in jail.

But I do think that there are deep conversations to be had about what we're going to do going forward. And that's one of the reasons that I like solar stuff so much. It's an example of the kind of place to have those conversations - and over beer, because there's now at least 20 solar powered breweries in this country, so that's a very good thing.

Questioner #4:
What are the roadblocks to massive build out of battery backed solar?

McKibben:
The only roadblocks at this point are political. Well, so that's why we do what we do. The best news here that completely goes to your point is that the state that's now surpassed California as the biggest builder of this stuff is Texas. And it's just sheer economics driving it.

It withstood a big challenge from big oil in the Austin legislature this spring. They introduced a whole series of bills designed to slow down this transition. The most prominent was one that people were calling “DEI for natural gas” because it would have forced anybody who wanted to build five megawatts of solar to build five megawatts of natural gas at the same time, which is insane. But it was going to pass until people appeared out of the hinterlands, mostly rural Texas saying, "Don't do this. This is how we pay the taxes in our county. This is what keeps the schools open in our rural county." And the legislature backed off. They returned to their project of redistricting to add seats for Trump, but they did not want to touch that anymore.

The same thing on a smaller scale is very true of rooftop solar and solar on people's houses. And truthfully, here is a place where California has done a poor job in the last few years, I think. The governor has made a series of decisions that's killed off a great deal of the residential solar industry in California, which is a great shame because this is a perfect compliment to the large scale utility-scale solar and things that California's done a much better job on.

California utilities this summer tested what we call a virtual power plant. For the day they took control of about 100,000 Californians with batteries in their basements and combined them to see what they had. And what they had was a lot. In Vermont, where I live, the single biggest power plant we have is the virtual power plant of thousands of batteries in people's basements. So very cool stuff.

Since we're not going to have federal subsidy anymore for rooftop solar, we're going to have to drive the cost down, and that's actually relatively easy to do. It costs three times more to put it on your house in this country than it does in Australia or the EU. Tiny bit of that's tariffs on panels. Mostly it's the fact that we have way too much bureaucracy in the way.

There are 15,000 municipalities in this country. Each has their own building code. Each has their own team of inspectors to go crawl on your roof. It takes months often to do it. Everywhere else in the world, it's a matter of days. The National Renewable Energy Lab put out this thing called the Solar App Plus that allows for instant permitting. California has theoretically mandated its use, but you have to go to each city, and make sure that they're actually doing it.

The most beautiful story along these lines - not the most numerically significant but the most beautiful - is the rise of what we've been calling balcony solar, and it completely illustrates this point about regulation. Three or four million Europeans in the last three years have gone to whatever you call Best Buy in Brussels, and for a few hundred euros come home with a solar panel designed to be hung over the railing of your balcony. And then it just plugs into the wall with a standard plug. No electrician, no wiring, nothing. Okay? It often produces 20%-25% of the energy that a household uses. That's illegal everywhere in America, except the progressive bastion of Utah…

McNally:
That's right.

McKibben:
…where the state legislature earlier this year voted unanimously to allow this on the grounds that… At Third Act, we had a great talk with the state senator who did it. He said, "Well, I see no reason why the people of Provo should be denied what the people of Stuttgart enjoy."

We introduced balcony solar legislation yesterday in the Vermont legislature, and I 'm absolutely certain it will pass. You don't even have to wait for Sacramento. The city of Los Angeles could, the city of Santa Monica could quickly revise its code to allow people to do this - and should. Even with Washington in deeply unfriendly hands, there are a lot of things that we can be doing and we are going to try to do that.

Questioner #5:
You make such a powerful case for this. I've been steeped in politics for decades and I understand the industries, I understand the interest groups, I understand the power of the Koch brothers and all that stuff, but I also begin to wonder recently, why the hell can't we win? Why can't the Democratic Party be the China of politics? What tools are we so far behind in that we can lose to a Donald Trump? It's not like the Democrats don't have money. They have plenty of money. They have plenty of expertise. They have plenty of consultants.

I'm glad to hear you saying these things because I think you're looking for that answer and I hope we all find it, but I am wondering what's stale in the Democratic Party that it can't get anywhere.

McKibben:
Stale is one of the right words here. I mean, it is painful to watch the national Democratic Party be unable to come up with a coherent response to the unbelievably obvious attacks on the most fundamental things in our society. It really is an unbelievable failure of messaging. The day that they shut down that wind farm off the coast of Rhode Island, there should have been 15 Democratic senators on a boat going out to that wind farm with as many TV crews as they could muster, and they should have been standing on those pylons talking about just how much this was going to cost the people of New England to not have this cheap power supply.

Last night when Jimmy Kimmel was fired, there should have been 20 Democratic representatives from across California standing up and telling, repeating every joke that Jimmy Kimmel had ever told about Donald Trump. There should have been a six-hour joke-athon-

McNally:
An "I Am Spartacus" joke-athon. ...

McKibben:
Going on and on. None of this seems that difficult to me, but these guys are deeply ingrained in a tradition where the thing you do is write letters and issue press releases. That's why what Mamdani is doing is so interesting. He clearly understands that we live in a time when if you want to make a point, you better figure out an interesting way to do it. Last week, to illustrate the changes he wants to make in transit in New York, he raced the 34th Street bus across town, and demonstrated that he could walk across midtown Manhattan faster than the bus could go. This is the kind of thing that people need to get good at.

When we were taking on the banks at Third Act two years ago in DC, we had a big protest outside the banks and we wanted to shut them down for the day. Partly because we're too old to sprawl on the sidewalk for hours at a time, but partly because we wanted to make a deeper point, we went to the Goodwill in Washington and got every rocking chair that they had and used hundreds of them to shut down the bank. The next day there was a big story in the *New York Times* about the "rocking chair rebellion" against the banks.

This is the sort of thing that should be coming out of this city because this is theoretically what y'all are good at here - and it's true. I hope that it starts to emerge. I have no idea why the Jimmy Kimmel thing hasn't triggered every actor and screenwriter to be doing clever things all day, and hopefully that'll start to happen. Your point is a very good one.

Questioner #6:
I'm just curious. I came to this area of study rather late. Can you give us an encapsulated version of your *aha* moment?

McNally:
You mean originally… way back?

Questioner #6:
Yeah.

McKibben:
Around climate change?

Questioner #6:
Yeah.

McKibben:
In fact, I was talking about it with the kids today in here. My first job out of college was writing the *Talk of the Town* column for *The New Yorker*, which back in those days was blissfully anonymous. It was fun and I wrote most of it for-

McNally:
Most of it…Impressive.

McKibben:
... for three or four years. And the first long piece that I wrote for *The New Yorker*, when I was 23 - and it was very long because *The New Yorker* in those days had an appetite for extremely long pieces - was an account of where everything in my apartment at the corner of Bleeker and Broadway came from.

I followed every line, like the electric line. I was in Brazil looking at oil that ConEd was buying, and in the Arctic, looking at the big hydroelectric dams at Hudson Bay that they were getting power from, and in the Grand Canyon, watching them mine uranium. I was out along the New York City water supply system - which is one of the real seven wonders of the world - with the garbage barges and on and on and on.

It had the effect of instructing me on the fact that the world is a physical place, something that, as a good child of the suburbs, I really had never contemplated before, because the American suburb is a machine to hide the operation of the physical world from you. Where does the water come from? Who knows? It comes from the tap.

And that sense that the world was a physical place meant that the world was a vulnerable place in ways that I hadn't understood. That just happened to be the same couple of years that if you were reading the scientific journals, the first real important papers about climate change started coming out. And I read them in a different way than I otherwise would have, had I not spent that year doing that piece. I was struck by the vulnerability that we were going to be exposed to as the temperature began to warm.

And so that's why I wrote *The End of Nature* when I did. That was one of the insights that drove it, because half of it was reporting on climate, and the other half… It's an odd book. The other half is a kind of amateur-philosophical-lay theological reflection on what it would feel like to live in a world where humans were taking control of everything, where there would be no such thing as wild nature anymore.

And that was a result of the fact that I, at 25, had moved to the Adirondack Mountains, the great wilderness of the American East, and was living deep in the woods, and absolutely in love with that wild place in a way that I'd never been in love with a landscape before. And so I was feeling very deeply the kind of potential loss of that world.

It hadn't happened yet, but one of the reasons that there are writers in the world is to try and imagine what things will feel like. And it was a period of extraordinary angst for me… really was very, very hard psychologically to deal with, but I got through it in a sense, I guess.

And it's, I think, one of the reasons that I've been able to spend 35 years dealing on a day-to-day basis with this, and organizing around it, and dealing with the very dark subject that it is. I had faced up to what seemed to me the worst possible sense of it at an early point and was sort of inoculated. Not completely. I'm still subject to the sadness of it sometimes, but not debilitating anymore.

Those were, for me, the *aha* moments. And I'll just add is that asa result of all of that I'm ... I was talking about this with the kids today. I'm very sensitive to the fact that the world is still, despite all this, a very beautiful place and that we are creatures capable of noticing and appreciating that beauty, and that that's one of our jobs.

If there's a snowstorm in Vermont, man, I make absolutely full use of it. I'm out in it as much as I can and soak it up. As lovely as it is to be here with you all, I'm exquisitely aware of the fact that in the hills of Vermont the leaves are turning even as we speak, and I wish I was there to see them.

So make of that what you will, but for me, that's been a key insight of all of this, that the world is never going to be more intact than it is right now, so we might as well pay some witness to that, even as we're doing what we can to keep it as intact as we still can.

McNally:
Again the book is HERE COMES THE SUN and the websites are billmckibben.com and thirdact.org.

This episode was recorded as a LiveTalksLA in-person event September 18th 2025 in Santa Monica CA. I've had the pleasure of participating in conversations for them many times over the years, including with Michael Lewis, Yuval Noah Harari, and Doris Kearns Goodwin. You can learn more about their past and future events at livetalksla.org and link to this conversation and all of the others by going to youtube.com/livetalksla/videos and scrolling down.

For this conversation and many other interviews and articles, and to join me in pursuit of a world that just might work, go to terrencemcnally.net or a worldthatjustmightwork.com – they're the same website. If you want to receive my weekly email announcements of guests and issues, plus links to 10-15 articles I choose each week to flesh out the conversation. Sign up at my site or email me at temcnally@mac.com. You can also subscribe and listen to the Free Forum podcast on ApplePodcasts and other major podcast sites.

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