

The Great Simplification

Bill McKibben (00:00:00):

40% of all the ship traffic on planet Earth at the moment is just carrying coal and oil and gas back and forth around the planet to be burned. And that to me gives you some glimpse into actually the kind of dematerialization that may be possible as we move in this direction. But yeah, it's definitely not easy. There's no free lunch. We've got to figure out how to do it with some kind of environmental standards and probably more importantly, some kind of humanity.

Nate Hagens (00:00:36):

Today's guest is my old friend, Bill McKibben. Bill was one of the co-founders of the climate organization, 350.org, which was the first global grassroots climate campaign that organized protests and demonstrations all around the world and including Antarctica on climate action. Bill also recently founded Third Act, which organizes people over the age of 60 for action on climate and other social issues.

(00:01:07):

His 1989 book, "The End of Nature" is regarded as the first book for a general audience about climate change. I read it, and it was one of the few books that caused me to leave Wall Street and go study ecological economics. Bill and I don't always agree on prescriptions and energy in the economy, but we share a deep aligned value system on nature, on the importance of climate change in the biosphere. And like you to please welcome Bill McKibben. Bill McKibben, great to see you.

Bill McKibben (00:01:55):

It's good to see you, old friend. Very good.

Nate Hagens (00:02:00):

We are older. It was 20 years ago that I emailed you, and 19 years ago when we met in person when I was getting my PhD in Burlington. Time flies.

Bill McKibben (00:02:11):

I'm much older than you, but I spend all my time now with other old people like me, so I'm completely adjusted to it.

Nate Hagens (00:02:21):

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I don't have the data in front of me right now, but from the time we met or maybe a little bit before then, talking about climate and CO₂, the CO₂ that humans have emitted per year is doubled. It's gone completely asymptotic since you and I met, as I'm sure you're aware.

Bill McKibben (00:02:44):

Yes. I mean, I wrote the first book about all this stuff back in 1989, and since then, humans have emitted far more carbon than in all the years before 1989. I am afraid I've written more words about climate change than anyone else in the English language and probably by a fairly large margin. So I think you'd have to say I'm among the least effective writers that there's ever been in the course of all this stuff.

Nate Hagens (00:03:17):

Well, you're fighting the super organism dynamic, so it's-

Bill McKibben (00:03:22):

That's the problem. That's what we tell ourselves.

Nate Hagens (00:03:23):

.. an epic David and Goliath situation. So let's talk about that. Your book-

Bill McKibben (00:03:27):

David won though. That's the thing. So you know.

Nate Hagens (00:03:29):

Well. Let's talk about that. So your book, "The End of Nature" which actually was one of the books that caused me to change my Wall Street trajectory along with Herman Daly's and others. So what have you learned since you wrote that 35 years ago about our world, about your worldview? What's changed?

Bill McKibben (00:03:55):

I mean, the tragedy of it is the book holds up just fine. We knew everything we needed to know about climate change in 1989. There've been a few things that we've learned since say ocean acidification as a truly serious problem and things like that. But the basic understanding of this and the understanding of how it was going to play out

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and when it was going to play out was pretty clear in the late 1980s when this first broke into public view. So that's a tragedy, a tragedy defined i.e we've had full foreknowledge of what we're doing and we've done it anyway.

(00:04:40):

So I guess that one of the things I've learned is that it takes a lot more than winning the argument in order to make change. I'm a writer by trade and sometimes a bit of an academic, and I think these are both places where we prioritize winning the argument, and that's what I did for probably 10 years after that book came out. I just kept writing more books and giving talks and having symposiums and publishing articles and on and on and on.

(00:05:20):

And that's all useful. You have to win the argument. But at some point I looked around and understood that though we'd clearly won the argument, there was no longer any scientific dispute about what was happening. We were losing the fight because the fight was not actually about data and reason and evidence. The fight was about what fights are always about money and power. And the other side in this fight, the fossil fuel industry had so much money and hence so much political power that they could convincingly lose the argument without it damaging their business model a bit.

(00:05:57):

So that's the point where my life's work began to shift, and though I still spend an awful lot of time writing and think of myself as a writer and a journalist and things, most of my hours have been taken up since with the volunteer task of organizing big movements to try and build some power and stand up to the fossil fuel industry, and that's been fascinating work that I've learned a lot about.

(00:06:27):

But if you ask how my worldview changed, it's that the only hope of beating powerful institutions is to build powerful institutions yourself. If you don't have a lot of money, that means building big social movements, which history indicates on occasion can rise to these kinds of challenges.

Nate Hagens (00:06:50):

I agree with that part. I think you have known me long enough that you know that I disagree with your other contention. I don't think this is the fault of fossil fuel

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companies other than they are the providers of the drug that humanity eight billion of us are addicted to. I do think fossil fuel companies are to blame with the shade and disinformation on what's happening, but I think if we had altruists in charge of the fossil fuel companies, I don't think much would change given the metabolism.

Bill McKibben (00:07:26):

In that place, I think you're wrong. Just that I think you underestimate the power of that disinformation. So think about it. Here's a thought experiment. The night in June of 1988 that Jim Hansen testifies before Congress, if that same night the CBS Evening News, which in those days people all still watched, Dan rather someone comes on TV and he interviews the CEO of Exxon and the CEO of Exxon says quite accurately since we now know from great investigative reporting that this is the truth.

(00:08:10):

He says, "You know what? All our scientists are telling us exactly the same thing, maybe even a little worse. We've stumbled into the worst problem that humans have ever stumbled into and we've got to go to work on it." I think that would've produced a profoundly different political climate and economic climate from which we instead, we now know that Exxon and everybody else did just the opposite.

(00:08:39):

While understanding all these things internally, Exxon begins building all their drilling rigs higher to compensate for the rise in sea level they know is coming. They instead hire the guys who used to work for the tobacco industry pretending that cigarettes didn't do you any harm and get them on board and proceed to go after every single effort to do anything about this for the intervening 30 years. And what they cost us I think was time, which was the most important single variable here.

(00:09:16):

So I think their role has been enormous and continues to be in all of this. It's possible I may overestimate that because they've come after me so hard and tried to do so much. I had two or three year period in my life where every time I stepped outdoors, somebody hired by the fossil fuel industry was there with a video camera to record every single thing I did in public and put it up on the web. And they just sentenced a guy yesterday for trying to hack my computer and a bunch of other people's on behalf of the fossil fuel industry and on and on and on. But I think those things are

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the minor examples of the huge political game that they've played here and around the world for 30 years.

Nate Hagens (00:10:06):

How have you managed that? I mean, I've been at this not as long as you have, and I worry about things like that all the time. You have been doing this for almost 40 years or over 40 years. How do you keep your aplomb and grace and rationality when stuff like that is going on seriously?

Bill McKibben (00:10:30):

Well, I think you have to figure that that comes with the territory because you're standing up to what was, at least at the beginning of this fight, the richest industry on Earth, and hence the most powerful people on Earth. And I understand what the stakes are for them and why there's no chance that they weren't going to do this. I mean, what we're trying to do is keep in the ground, depending on what the present value of what today's price of oil is, we're trying to keep in the ground 40, 50, \$60 trillion worth of fossil fuel.

(00:11:13):

So I mean, you don't have to be a genius to figure out that's going to provoke a reaction, and indeed it has. And I obviously have had it far easier than most people. I got to do the memorial service two years ago at COP for the 241 environmentalists that had been killed around the world the year before, mostly in the developing world, people who got in the way of somebody's oil well usually. I mean I haven't enjoyed all that, but I'm still here doing fine.

Nate Hagens (00:12:02):

Do you think that that dynamic is going to get worse as we head towards worries about energy security and what's happening with Ukraine and Russia and Europe and the Middle East and trying to keep the lights on and stability that the environmental ethic, which you have spent your entire career trying to pass the baton to other humans is going to become more fringe and more threatening to the status quo, and therefore what you just described is going to become more prevalent?

Bill McKibben (00:12:34):

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It could. I mean, there's two competing dynamics here. One is the one you described, and the other is the other thing that one couldn't perhaps have predicted or whatever, but that's breaking in our favor, which is the very, very, very rapid decline in the price of renewable energy of energy from, or whatever you want to call it, energy from the sun and the wind, which should take an awful lot of the sting out of a lot of these discussions. It doesn't take any of the sting out of it for Exxon or for Vladimir Putin. I mean, it's obvious why they hate this stuff, but it should make it easier for most societies to proceed.

Nate Hagens (00:13:26):

Well, we disagreed on that 10 years ago, Bill, I think the last time we spoke, and we still disagree about that. Even if it were true that all in those energy tech were cheaper, it is true that we're scaling them, but energy demand is increasing faster. So we're also scaling fossil carbon and hydrocarbon consumption.

Bill McKibben (00:13:50):

That's a really interesting question right now, and if it turns out that everything we're doing with sun and wind is just additional energy, then it's all pointless. I don't think though that it's quite as... I think we don't know, and I think some of the signs from the last year or two are more interesting than that. I mean 2023 is such a fascinating year, Nate because both things are happening at once. We get the highest temperatures in at least 125,000 years on this planet.

Nate Hagens (00:14:25):

This past weekend, right?

Bill McKibben (00:14:26):

Well, I mean the highest temperatures came of course in June and July with most of the landmass in the Northern hemisphere. That's when the temperature gets highest globally averaged on planet earth. But the anomaly was the highest over this past weekend. Highest so far,. Humans stepped across this two degree Celsius barrier for the first time, which is, if you think about it, pretty astonishing. We broke through both the 1.5 and two degrees Celsius barriers in the same year. That's not good. So we can talk about that length and it's desperate and whatever.

(00:15:07):

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Also in June and July of this year, we hit the point where apparently we were installing solar energy at roughly a rate of about a gigawatt a day. So a nuclear power plant a day, half of that in China, but that's still a lot elsewhere. So if that doesn't within a year or two start to tell in a downward, if we haven't peaked on fossil fuel and begun to go down within the next couple of years, then we've, I think lost this bet and we're in very, very deep trouble.

(00:15:51):

It's why one of the things that I've worked on my whole life is trying to get people to also use less energy and live slightly different lives and things. But let me tell you, that is a very difficult task. So I'm hopeful that as we build this stuff out, we'll see that shift start to happen. And in fact, I was just seeing the data today, Oil Change International, a group I really like put out a report today, and it was interesting.

(00:16:23):

It said that U.S. demand for fossil fuel in the last 18 months has begun to fall appreciably, which is sort of what you'd expect. We're now a fair number of EVs on the road and a fair number of heat pumps in people's houses and on and on and on. But they said the total production of fossil fuel in this country is up about 13%, which means that it's all that what's happening is we're vastly increasing this export system. And I think what's happening is that the fossil fuel industry is doing what the tobacco industry did.

(00:17:04):

When American law finally began to get in their way, their response was let's export a lot of cigarettes to China, and that's why I'm working so hard on this plan, this fight, which is really heating up fast to try and stop the expansion of U.S. liquefied natural gas exports. That turns out to be the biggest single plan anywhere in the world for increasing fossil fuel, expanding fossil fuel infrastructure.

(00:17:41):

At the current, Jeremy Simon's just had good data on it. If the industry is able to win the permits and so far they've never been turned down on anything, able to win the permits they want over the next six or seven years for building out more of this LNG export stuff, then eventually within 10 years or so, American LNG exports will produce more greenhouse gases than everything that happens in Europe. Every factory, farm, house from the southernmost Greek island to the northernmost Finnish sauna, we'll be

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producing less fewer greenhouse gas emissions than U.S. LNG exports. So here at least is a place where we can try and rein it in sharply.

Nate Hagens (00:18:41):

I have so many questions and follow-ups to what you just stated. First of all, let me start here. There's two stories. There's what's happening in the Global North and we are reducing the pace of fossil fuel consumption. Part of that is in Europe ending in more energy poverty, especially the countries that have a lot of renewables, like Portugal has like 20% energy poverty even though they have a lot of renewable input. (00:19:14):

But the Global North is separate than the Global South and the Global South is scaling fossil consumption rapidly. We're hitting all-time highs in coal globally since 2015, which is the Paris Accord. We have 200 gigawatts net, not gross, but net increase in coal. So there's a Global North and a Global South dynamic of emissions, and the climate doesn't care about different countries.

Bill McKibben (00:19:47):

That's for sure.

Nate Hagens (00:19:48):

The climate cares about the whole world. Well, the climate doesn't care at all. It just responds.

Bill McKibben (00:19:54):

Yes, probably best not to anthropomorphize any of these things.

Nate Hagens (00:19:59):

Exactly.

Bill McKibben (00:20:00):

So that's exactly right, which is just what you would expect in a sense. I mean there's an extraordinary amount of economic latent energy in the Global South that has to get in order to raise people's lives to anything like what they would hope for. It's going to take more energy and the question is where that's going to come from. And I think

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that the reason that too much of it's coming from fossil fuel right now has to do with that being the path of least resistance, especially in a system that's just geared to doing fossil fuel and heavily promoted by a lot of people within that industry and in the West.

(00:20:58):

But I think two things about these countries that may be helpful, one in all of them now the cheapest energy comes from the sun and maybe the wind in some of them, but certainly from this, I mean we're now basically on a planet where the most inexpensive way to produce power is to point a sheet of glass at the sun, and that gets better every quarter. I mean, that decline just continues despite everything everyone always says about how it's going to end soon, it hasn't ended. It keeps going down that slope.

(00:21:37):

The other thing is those countries are, 80% of the world lives in countries that are net importers of fossil fuel, which means that their endless balance of payments problems and anything else are deeply tied to their consumption of fossil fuel, and they have the ability to begin to change that quite dramatically. Whether or not we can figure out how to make that happen in time, I don't know.

(00:22:09):

It strikes me that the biggest North-South imbalance is that most of the money in the world is in the North. In fact, a great bulk of the world's money is in pension funds in the United States. And somehow figuring out how to de-risk the investment possibilities so that retired bus drivers in Seattle can be safely investing their life savings in solar farms in Senegal strikes me as one of the truly interesting financial challenges there ever was.

(00:22:56):

I have no idea why people on Wall Street find it intriguing to figure out derivatives on, and I know they do. I just don't understand it. But it strikes me that it's got to be an interesting enough question. This one I've posed for some of these financial wizards to put their talent to work here, and my guess is that it has something to do with using intermediaries like the World Bank and the IMF to figure out how to take enough of the risk out of those investments that it becomes possible to move that capital that sits in the North to the place where it badly needs to be put to use.

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Nate Hagens (00:23:34):

I think the answer is that the people on Wall Street are pursuing power and power is money that is supported by the energy-dense carbon of coal, oil and natural gas and technology and other materials and resources and at the margins, solar and wind. And then they figure out ways to leverage it where they don't take a lot of risks themselves and they leverage it and get outsized returns.

Bill McKibben (00:24:03):

That's why we need government to step in and do some of this work, and that's why we build movements because what's government, but all of us working together on things.

Nate Hagens (00:24:14):

Well, here's a foundational question. So right now you said you're working on a campaign to stop or reduce LNG exports in the U.S.

Bill McKibben (00:24:26):

Yes.

Nate Hagens (00:24:27):

And I've seen other projects where they wanted to outlaw propane stoves in the Northeast and things like that. All these things at the margin would reduce emissions, but our cultural objective is GDP and growth. So can we make these policies politically acceptable and have momentum if the vast majority of people are voting for growth and everything else that accompanies it.

(00:25:01):

But people within the climate movement, their focus is reducing emissions. So this gets back to the journalism question, and you say that we've won the argument. When you say we do you mean globally? Because I don't think the argument has been won in the United States yet.

Bill McKibben (00:25:16):

I mean scientifically there's no longer a serious argument about climate change.

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Nate Hagens (00:25:21):

I agree with that.

Bill McKibben (00:25:22):

Carbon and methane-

Nate Hagens (00:25:22):

Although some people would disagree, but I don't.

Bill McKibben (00:25:30):

Not people acting in good faith, I think. But I think your question's completely fascinating. My sense of the world is that most people are not deeply invested in the idea of increasing GDP. I completely agree with you that that's what our power system is largely invested in.

(00:25:52):

I mean actually most people at the moment seem far more interested in questions around distribution and fairness than they are in total size of... And I mean Biden's been increasing economic growth quite merrily the last couple of years and it doesn't seem to have cheered anybody up. Their distributional questions seem far more, far more interest to people.

(00:26:24):

But the point I was trying to make, and I think there's other ways in which the coming energy transition is super interesting. I was making the case a minute ago that for a lot of developing countries, it's questions around things like balance of payments are really, really interesting because their indebtedness is their fate. I think for a lot of say in America there's a lot of people for whom the prospect of controlling their own energy supply off the roof, off the battery in the basement, off the community solar farm, off whatever, is also a tremendous interest and it often cuts across political identities.

(00:27:12):

So I think there's a lot of interesting things in play here right now. We're at a moment when it's possible to imagine in relatively short order humans ending large scale combustion on planet Earth. Combustion has been what we've done for 700,000 years

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and since the Industrial Revolution, it's defined our economy, but it's no longer strictly necessary. We now know how to take advantage of the fact that the good Lord hung a large ball of burning gas 93 million miles away in the sky. So if we wanted to end combustion in that sense, we could. And the scientists definitely tell us it would be a very good idea, but there's no question that a change on that scale is so upsetting to so many status quos that it's going to be a wrenching fight to see it through.

(00:28:18):

Here's my guess. I mean, if you wanted me to make a guess, I think 40 years from now we probably run the world mostly on sun and wind because I think all these trend lines are going to continue and I think we can figure out how to do it, but-

Nate Hagens (00:28:33):

At what scale versus today?

Bill McKibben (00:28:35):

Yeah. Well, I think it probably... I don't know because the second half of my prediction is, and here I don't want to be true and I'm fighting as hard as I can to make sure it's not true, but it doesn't feel like we're going to do it in time.

(00:28:58):

So my guess is that we're going to run a largely broken planet on sun and wind. As I say, I've spent my life trying to make sure that's not what happens and trying to catalyze that reaction to come quickly enough that we can. But this week we've watched human beings break through that two degree Celsius barrier, at least temporarily. That's a really daunting fact.

(00:29:26):

We've gotten more data in the last few months about rapid melt on Greenland and in the West Antarctic that's super daunting. This year has seen a lot more evidence of fundamental disruptions to the jet stream and the Gulf stream to big deep ocean currents. So we're playing with things at very dangerous and deep levels that unnerve me and unnerve every scientist I know, and we've begun to see feedback loops on a scale that terrify me.

(00:30:10):

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The Canadian wildfires this year are set to put carbon into the atmosphere two or three times the level of carbon that Canada produces with all the driving, cooling, cooking, heating, flying that Canadians manage in the course of a year. So that combination of things makes me very uneasy that we have fallen so far behind the pace of the physics that catching up even as we are able to deploy renewable energy now. I don't think it's technically impossible, but I'm not convinced we can make it line up fast enough. I'm obviously going to keep trying and I think we have an outside chance at doing it, and that's well worth pursuing.

Nate Hagens (00:31:07):

I don't think there's anything actually called renewable energy. The sun, the ball of gas you said is renewable, but the machines that we build to harness them, solar panels are no more renewable than a pickup truck or a cell phone. We have to rebuild them in 20 or 25 years. And the materials, the copper, the lithium, the cobalt and all that is in the Global South, it's in places that are already experiencing higher wet bulb temperatures, social strife, et cetera. So I think as we attempt to decarbonize, we're going to rematerialize and that's not going to be scalable.

Bill McKibben (00:31:49):

Well, that's possible. That's possible. My sense is it's going to take material to do it. There's no question, but that it's going to take quite a bit less than what we're using at present. And I think if you think about it for a minute, it's easy for people to grasp that. I mean, yes, you have to go mine lithium to make a battery and whatever, but once you've done it, the lithium sits in your battery for a quarter century or however long it lasts doing what it's supposed to do.

(00:32:26):

And that's very different from coal, which you mine. And then the point of mining it is you set it on fire so that you have to go mine some more of it tomorrow. The thing that sticks in my mind, the statistic that really sticks in my mind is that 40% of all the ship traffic on planet earth at the moment is just carrying coal and oil and gas back and forth around the planet to be burned.

(00:32:57):

And that to me gives you some glimpse into actually the dematerialization that may be possible as we move in this direction. But yeah, it's definitely not easy. There's no

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free lunch. We got to figure out how to do it with some kind of environmental standards and probably more importantly, some kind of humanity as we do it that should be within our power to do. But corporate greed and things are always problems to be dealt with and we shall try.

Nate Hagens (00:33:37):

I have so many thoughts, Bill.

Bill McKibben (00:33:41):

That's good because you've got a radio show so you can expound on them over and over again.

Nate Hagens (00:33:47):

A prominent one is this. The reason that you and I are friends and that your writing has influenced me is because we at our core, deeply share a value system about the living world. And so I've found in my podcasts and in my travels around the world and talking to people about this, that people like you that I really resonate with on my values don't see the systems ecology of renewables money, the superorganism the same way, but the people that see the energy in the systems the same way don't have the value system that you and I do, and it's incredibly frustrating.

(00:34:39):

And so one thing that I'll say is when you're talking about that we just hit two degrees, albeit maybe temporarily this past weekend and the slowdown of the Atlantic current and what's happening with Antarctica and the other things you mentioned, I immediately interpolate the implications and inferences of that and they are not good. And yet others are completely focused on other things, poverty or social justice or getting a raise or paying the bills this weekend and they have no idea of what's happening to the thermal condition of this blue-green planet.

(00:35:25):

And so how do we get... And this gets back to your biggest skill, which is you're a beautiful writer and journalist, and I'll ask you again, is journalism, has it successfully passed the baton to humanity? And if not, what is the role of journalism in this time? And is the United States particularly a hard nut to crack with all the other chaos and

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drama and things competing for our attention? I mean, I assume you watch the movie "Don't Look Up." I mean it was kind of a comedy and like a documentary-

Bill McKibben (00:36:07):

Kind of a tragedy.

Nate Hagens (00:36:07):

... of sorts. Yeah. What are your thoughts on all that?

Bill McKibben (00:36:11):

Well, those are all good questions. So for me, part of the answer about journalism, I do think that journalism about this question around climate is a lot better than it used to be. There was a 10 or 15 year period when if there was any article written, a major article written about climate change in American or English language publication, there was about a 70% chance that I'd written it, which was a very bad way to be conducting all this.

(00:36:52):

And no one in the world is happier than I am that there are now thousands of good climate journalists on this beat all over the place doing remarkable work. And if you want to find out about this stuff, you definitely can. And there's some really powerful work. That doesn't necessarily mean that it breaks through into public consciousness in the way that it needs to. I do think it is breaking through slowly but surely, and I think that's partly-

Nate Hagens (00:37:28):

Because the facts are unavoidable.

Bill McKibben (00:37:29):

... it's partly journalism and it's partly wildfires and floods and hurricanes. I mean, at a certain point when the hillside behind your house is caught on fire three or four times, who are you going to believe Fox News or your own eyes? And so Mother Nature's a good educator.

Nate Hagens (00:37:47):

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The answer for 50% of the population is Fox News.

Bill McKibben (00:37:50):

Fox News. Well, it is dispiriting to live in a moment when there is a full on effort at disinformation all the time. And I think about this a lot because we can talk about this later, but I spend my time now organizing older people like me. We have this group called Third Act for people over the age of 60. And it is daunting to be reminded that Fox News that we have a huge communications machine whose entire business model is scare old people. And effectively you can tell who it's aimed at because Nate every ad is for step-in bathtubs, but that's their whole business model. Be terrified that someone is going to take something away from you. So it is hard.

(00:38:51):

I will say even in this country, we're now at the point where the polling data shows better than two-thirds of Americans understanding that climate change is a serious problem and wanting the government to do something about it. In the Democratic Party, in the 2020 elections, climate change was the number one issue that voters cited, which is why Joe Biden, who hadn't evinced an enormous level of concern about any of this over his career, spent the first two years of his first term getting the IRA through Congress.

(00:39:30):

And I still don't know quite how he managed to do it. It's a deeply imperfect piece of legislation, mainly thanks to Joe Manchin, but it is a start and Biden can make a legitimate claim to having done more on the clean energy side of this equation than any president perform. To me, as I said before, the scary part is it's not where we're going, it's how fast we're going there. And I think the thing that journalism has done the worst at and politics and everything else is communicating the degree to which this is a time-limited problem that we're faced with. Our political system is not used to time-limited problems.

(00:40:26):

So for instance, as long as you and I have been alive, America's been fighting about national healthcare. And I think it's a sin that we don't have it, people die and go bankrupt every year. I assume that someday like every other industrialized country in the world, we'll decide that it's much more efficient and sensible to have a national healthcare system. Once we make that decision, it won't be harder to do it because we

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delayed, people will have died in the interim, but it won't make it much harder to do the right thing eventually.

(00:41:06):

But as you know, obviously climate change isn't like that. Once you go past certain things, some of which we've gone by, the ratchet only works one way. Nobody has a coherent plan for how you refreeze the Arctic. And it turns out that a frozen Arctic is a fairly substantial feature of the world that you and I were born into. So that's the part that scares me and it's the part that kills me about the fossil fuel industry in particular.

(00:41:42):

I think they've long since decided that come to understand that their time atop the heap is limited, and I think their goal has been reduced to extending it another couple of decades, keeping their business model going a while longer, even at the cost of breaking the planet, which clearly is the cost. So to me, there are a million different subplots here, but the biggest subplot is whether movements can catalyze our political system to make this happen fast. And I don't know the answer.

Nate Hagens (00:42:27):

So I agree with what you just said. If you substitute a global 19 terawatt human economy for when you said fossil fuel companies, and I think the ask of humans is much larger than just switch to renewable energy. And let me tell you a brief story and I want to ask you about your work at Third Act.

(00:42:51):

Last year might be two years ago now, I had a dinner with a 70-year-old and a 72-year-old local friends that meet and talk about climate and economic growth and things like that. And they had been watching my Earth Day talks and we'd had private conversations and they scheduled this meeting with me and they're like, "Nate, we feel like we've wasted our lives just paying attention to the fluff of our culture and consumption and doing vacations and doing the American thing. And now in our remaining years, we really want to do something that will impact the future in a positive way given the years we have remaining, please help us, tell us what we can do."

(00:43:44):

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And I was taken aback, but here you've gone and formalized something like that with your new entity called Third Act. Could you talk a little bit more about that?

Bill McKibben (00:43:54):

Tell me what you told them. What did you recommend that they do?

Nate Hagens (00:43:59):

Well, it was an ongoing conversation, but I said the first thing we have to do is build community here locally and we have to talk to people that disagree with us and we have to start conversations about difficult things that the county where we live is not going to look the same as it did the last 50 years. Things are going to be harder. We're going to need social capital, and we need teachers and elders to organize things. That was one of the key things I told them.

(00:44:33):

And I actually said that climate change is not the problem. Climate is a symptom of a much larger dysfunction, and we're ultimately probably not going to choose to do this, but we're going to have to change how we organize our society. And we can just be passive and wait for that moment to come, or we can be active now and prepare for a simpler, less global, less consumptive lifestyle. And then there's some plans that are underneath that umbrella.

Bill McKibben (00:45:05):

Yeah, I'm not sure I disagree with much of that at all, and I completely agree. Something I've written a great deal about is the deep need for, what would you call it, neighborliness, working communities. For 75 years in this country, neighbors have been optional. If you had a credit card, you could get everything you needed for your life delivered to your door. You never have to see another human being.

Nate Hagens (00:45:32):

I see that all the time. Yes.

Bill McKibben (00:45:34):

But that's not going to be true for the next 75 years. Those of us who live in rural America have a sense of that already. I mean, Vermont here, we went through hideous

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flooding this year, and it's only because there's a lot of people to help out that we got through it as well as we did.

(00:45:53):

But I think everything you told those older people was exactly right. But I also think that there's a real task for older people in their remaining years to try and speed this structural change so that A, the temperature doesn't get any higher than it needs to, and every increment helps here. And B, so that we have more energy close to home, wherever home is to allow us to deal with what's coming.

(00:46:37):

I think a world with widely distributed sources of energy, which means sun, wind batteries, is a much more likely to navigate the difficulty that's coming at us than a world that's dependent on energy coming from a few places around the world controlled by few people.

Nate Hagens (00:47:02):

The world will be better off, or those communities that have distributed decentralized energy will be better off.

Bill McKibben (00:47:10):

Well, both of them, I mean the world will be better off because it won't be getting quite as hot. And those communities, which I think can be every community, if we do this as well as we can, we'll be better off. I think small democracy is helped by decentralization because I've watched the opposite. I mean, look, as long as you depend on a commodity that's controlled by, it's only available in a few places, the people who control those few places end up with way more power than we should be giving them.

(00:47:44):

So in our country, our biggest oil and gas barons were the Koch brothers. They used their winnings to degrade and deform our democracy in grotesque ways. In Europe, the biggest hydrocarbon baron was Vladimir Putin. He decided to use his winnings to launch a ground war in Europe in the 21st century. Not destroying the climate would be the single best reason to try and get off fossil fuel, but not being endlessly subject to the whims of fossil fuel oligarchs would be another.

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(00:48:25):

The third I would add, and I don't think it's one that people pay enough attention to, is that the act of combustion at this point in our planet also is emerged as one of the greatest public health threats in the world. The new data indicates that nine million people a year, which is about one death in five, is directly attributable to breathing the particulates come from burning fossil fuel.

(00:48:50):

So the people who run the numbers say that even if there was no climate change and no other reason that the economic impact of not having that level of sickness and ill health from burning fossil fuel would be more than enough economic reason, not to mention moral and humanitarian reason to get off it very fast.

(00:49:16):

So I mean, you can tell at some level. What can I tell you? I'm a Methodist Sunday school teacher some of the time, and that's just who I... It's what I've done with part of some of my life. And so to me, there's a deep moral part to these questions, and it wouldn't bother me to be moving in the direction of a world that ran on energy from heaven, not energy from hell.

Nate Hagens (00:49:47):

It's possible that this Earth, even its ecologically diminished form is heaven and that we're trying to avert hell with what we're doing with the six mass extinction-

Bill McKibben (00:50:01):

If not hell, then someplace with a very similar temperature. Yes, that's really well involved.

Nate Hagens (00:50:05):

Yeah. So on that topic though, do you think good and evil is more valid considered religiously or perhaps defined ecologically by some of the things we've talked about? Could ecological interventionists reclaim the terms good and evil from a deep time perspective based on the effects of some policy or some thing on earth's life systems?

Bill McKibben (00:50:30):

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Yeah. Well, I don't have it in front of me, but what was Aldo Leopold's great quote that a thing is good when it tends towards the preserving the ecological integrity of the planet. It's from San County Almanac, one of the great books anyone ever wrote. Yeah, I'm not sure there's that much difference between those worldviews. If you go look at the first page of the Good book, the entire thing is a story about the physical universe and human beings.

(00:51:07):

Their first commandment is to look over this physical universe that they've been born into and take good care of it. And boy, I mean, we've managed to screw up most of the commandments, but that one we're doing in real style. I mean, we're running Genesis in reverse right now, decreasing the planet quickly. So I'm not sure there's a huge, I think you're asking the same thing with those two questions.

Nate Hagens (00:51:35):

It's funny, not funny, but bizarre or profound that you and I have known each other for 20 years. I think the last time I saw you in person, Bill was at the Energy and Environmental Conference that I organized in Washington D.C. in 2006. William Catton was there. You gave the closing speech and it was just so profoundly inspiring.

(00:52:04):

And I remember, I think when we met, you were walking the talk and in Vermont, I guess one winter, you tell me you only ate things that were within 30 miles of you. And I asked you what was the hardest part about it, and you said the pepper that you missed pepper, if I recall or some spices.

Bill McKibben (00:52:28):

The hardest part was definitely early April. By then you're down to root vegetables up here and you're getting a little tired of them. My daughter was beginning to be rutabaga rebellious at that point, but it was a good fun experiment and truthfully, it'd be far easier now than it was in 2006. We've taken local food a fair ways, especially in Vermont, I think now you could do it without too much difficulty. And it's why I hope that local electrons like a local calories become a sort of thing going forward.

Nate Hagens (00:53:11):

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So is that one of the things that you're highlighting in Third Act or is it mostly about renewable energy?

Bill McKibben (00:53:18):

Third Act, the two things that we work on are protecting the climate and protecting democracy. And we think they're deeply interlinked and we think democracy is under severe stress. If you're old like I am, two things, I think two things above all are, didn't turn out the way that we thought they would. One has to do with the environment.

(00:53:51):

If you're in Third Act, then you were alive for the first Earth Day in 1970, and you probably participated in it because 10% of America participated in it. It was the biggest demonstration in history and it won passage of the Clean Air Act and the Clean Water Act and the air in the water got cleaner fast. And I think we thought that in 1973 or something that we were going in the right direction, and we did not suspect then because no one really knew that we would eventually be at a place where we were likely to melt the polar ice caps, which is where we are now.

(00:54:34):

Similarly, if you're old enough to be in Third Act, you lived through and were conscious about Watergate when it was going on. So we weren't naive about political corruption and so on, but the system worked, and I don't think that we despaired for the fate of our democracy. The equivalent of watching the polar ice caps melt is watching thousands of our countrymen invade the capitol killing police officers in order to stop the counting of votes. So both these things seem to some of us as alien and we're eager to try and slow them down.

(00:55:23):

We actually spend some time on renewable energy. We have a lot of people working at say public utility commissions around the country, going to all those boring meetings and figuring out how to change the outcomes. But we're much more interested in, or we're as interested in slowing down dirty energy. We coordinated a whole series of 100 actions in 100 cities last year aimed at the four big banks, Chase, Citi, Wells Fargo, B of A, that are the four biggest funders of the fossil fuel industry.

(00:55:55):

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These guys are cynical as hell, and we're trying to figure out how to overcome that cynicism. And we're pretty good at it. I was in the one in Washington D.C., we shut down the banks for the day with thousands of old people sitting in, were too old to sprawl on the sidewalk. So we'd gone to the Goodwill and found every old rocking chair in the greater DC area, and that's how we shut down those banks. I mean, the Times the next day called it the Rocking Chair Rebellion.

(00:56:34):

I think that we're opening up important ground, but again, I don't know whether we're opening it up fast enough. I'm not convinced that our systems are capable of responding at the speed we need them to, but we're going to find out if you're alive right now, you're almost certainly going to be alive long enough to see, I think how the crucial parts of this fight come out.

(00:57:04):

The IPCC has told us that we need to cut emissions in half by 2030 to stay on a path anywhere near the Paris path, if that's even still possible with this year's temperatures. 2030 by my watch is six years and a month away. I don't know. We'll find out. The reason I hate the fossil fuel industry is that it would've been a lot easier to do in 36 years. And we actually had fair warning 36 years ago about this. We just at their behest ignored it.

Nate Hagens (00:57:46):

To be clear, the fossil fuel industry is only 13% of global fossil fuels. The rest are owned by national oil companies like the government of China or Saudi Arabia, and I think the United States is reducing our coal use, but China and India are exploding there. So again, from a climate standpoint, it's almost like we need a global effort.

Bill McKibben (00:58:12):

We sure do. That's why when we started 350.org, which became the first big global grassroots climate campaign, we work everywhere. We've organized 20,000 demonstrations in every country on Earth except North Korea. It is getting harder and harder to operate in China and India and Turkey and places as these places and Russia as these places become far more authoritarian. So it's very hard personable society to do that work.

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Nate Hagens (00:58:47):

What do you think about artificial intelligence and its role in polarizing and making disinformation worse?

Bill McKibben (00:58:57):

You're going to know more about that than me. I'm appropriately wary I think of what's coming at us in those ways, but I'm afraid that it's going to take someone other than me to figure out how to organize to make it, to see what we can do about it. I think that all these things, but above all climate change are tests of whether or not the big brain was a good adaptation or not. And it can obviously get us in a lot of trouble.

(00:59:42):

And the question is whether or not it can get us out of it. My guess is that the answer to that question is related more to the size of the heart that that brain is attached to than the size of the brain itself. And that's what I've staked my life's work on. But you're quite right to say that that work is coming up short, the temperature past the two degree mark. So we may not carry this day.

(01:00:23):

I mean, look, I'm here playing the role of optimist, I guess, but the title of the book that I wrote at the beginning of all of this, that cheerful title was "The End of Nature." So I'm not at all committed to the idea that it's all going to work out. I'm just committed to trying.

Nate Hagens (01:00:47):

Well, the tragedy is that that was 35 years ago. And on every possible metric things have gotten worse. And obviously I know you're aware, but I don't think you write about it much. But it's not just climate, it's species loss, it's endocrine disrupting chemicals, it's drops in insects, it's all of it. So the whole ecological overshoot is driving this.

Bill McKibben (01:01:12):

I've gotten to write a fair amount about all of this. I do think that the climate system is the single most important component of this. That the climate system, aside from tectonic and volcanic forces and increasingly we're beginning to suspect even to some

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degree those, everything that happens on the surface of the earth is related to this flow of energy from the sun and how much of it we're trapping. And so I think that's the single key question of all.

(01:02:02):

But you're right. One of the dangers of the world in which we live is that that overwhelming reality means that we end up triaging a ton of other things that we need to. And so to the best one, life is insufficient to take on everything. But I get to try and help a little. I'm on the board of Beyond Plastics, which I think is doing important work in trying to figure that out.

(01:02:30):

I serve on the boards of conservation and wildlife organizations, and I got to write a book about and then preserve a farm for the single best non-chemical beekeeper in the country, maybe who's the kind of Johnny Appleseed of pollinators. So I get to play in all these things and help where I can, but I do think that what we're doing to the temperature of the Earth is the single biggest driving force of our fate.

(01:03:14):

And I also think that the effort for the reasons that I've described, that the effort to change it, to try and figure out how we rely on how we ratchet down the amount of energy that we use, and then how we make that energy come from local, decentralized, democratically controlled sources is the best chance we have of beginning to get out of the fix that we're in right now.

(01:03:43):

I don't think that it's plausible to imagine a rapid enough cultural shift in what we want out of the world. I wish that that weren't the case. I built 20 some years ago, the first effort at a real campaign around SUVs, and we did our best and we organized big demonstrations, and we got them in unusual places. We came up with the slogan, "What Would Jesus Drive?" And had a pretty big impact in evangelical circles and so on and so forth. But in the end, people kept driving bigger and bigger cars.

(01:04:29):

I think 50 or 100 years from now, we will have changed those things because I think humans are more interesting than that. I don't think that just constantly increasing consumption is making us happy in the ways that it says it should be. So I imagine

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that eventually we'll figure out some, but I don't think in six years that's going to happen at that scale. So I think we're also going to need some EVs in there.

Nate Hagens (01:05:02):

Or bicycles.

Bill McKibben (01:05:03):

I think the e-bike may turn out to be the single most interesting technological development of the last four or five years. It strikes me as potentially game-changing in lots and lots of ways. It's relatively low. You could certainly imagine a world where there was enough lithium to have an e-bike for everybody. And it's really is. I mean, they work great. They flatten hills. They let people my age easily get the places we need to go. So I agree with you. I think that's a powerful, interesting, subversive possibility.

Nate Hagens (01:05:50):

My point was that we are adding 100 million vehicles to the global population every year that are 3,000 pounds each. It doesn't really matter whether they're internal combustion or EV. It's still a consumptive drag on the ecology of Earth. And bikes would be-

Bill McKibben (01:06:11):

Absolutely.

Nate Hagens (01:06:12):

... a lighter footprint.

Bill McKibben (01:06:13):

Check out the specialized catalog and the track.

Nate Hagens (01:06:16):

I have a specialized bike.

Bill McKibben (01:06:18):

There you go.

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Nate Hagens (01:06:18):

And I love it except I live in Wisconsin, and you can't ride those when it's zero out because the battery doesn't function so well. But in the summer I ride almost every day.

Bill McKibben (01:06:29):

It's only zero out a few days a year even in Wisconsin. It's amazing how often you can ride them. I live at 1,500 feet in Vermont, so it gets cold.

Nate Hagens (01:06:44):

Other than being a Methodist, a Sunday school teacher, how have you maintained your sanity to the level that you're still uber-productive after 40 years? I mean, I'm deep in this work too, bill and my constitution feels drained quite often.

Bill McKibben (01:07:05):

You're doing fantastic stuff. You've got the top-rated Earth Science podcast on planet Earth.

Nate Hagens (01:07:10):

Well, I know I'm doing important work, but I feel the psychological drain of it is my point.

Bill McKibben (01:07:18):

Me too.

Nate Hagens (01:07:20):

And how have you managed that?

Bill McKibben (01:07:22):

For me, it's possible that the best therapy has been this work of building movements just because it constantly introduces me to millions and millions and millions of good-hearted human beings trying to do the right thing. And I think that there are more good-hearted human beings than not.

Nate Hagens (01:07:46):

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I agree.

Bill McKibben (01:07:47):

I just think they tend not to be in the critical positions of power where we need them. So that's one of-

Nate Hagens (01:07:53):

I agree with that too.

Bill McKibben (01:07:54):

... the things that organizing tries to do is redress that some. So that heartens me. And truthfully, I'm glad I live in a place where it's easy every day to get out and be reminded what a beautiful world it still is, even in its decline. I mean, it's impossible to overstate the glory of this thing that we've been given.

(01:08:26):

And it's one of the reasons why it's so... Well, why it's so sad to contemplate what we're doing to it and why it feels yes sometimes like a burden to have the kind of knowledge that you have about what's going on, but why it also feels like something of a privilege to get to stand up and do what one can on the single most critical issue that human beings have ever encountered.

Nate Hagens (01:09:00):

That's well said. It's a burden and a privilege. And also going outside and being in the woods and going for a hike, it's also beautiful and tragic at the same time. It's so stunningly gorgeous in the woods right now. But then I think about this stuff and my brain shifts to an unfolding tragedy, and I flip between the two. Is that the same for you?

Bill McKibben (01:09:27):

That's of course. I mean, for me, it's most acute at this season because of all the things that I like. Winter is number one on the list. To me it's the natural world at its absolute most whimsical for a few months at a certain latitude, friction disappears and we get to literally glide across the surface of the planet. It's the most fun in the world, and it's

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kind of magical, and it's disappearing as if we're in a fairy tale where it's just quickly turning all to mud.

(01:10:08):

And so, yes, to live where I live and to love winter is to be reminded constantly every time there's a January rainstorm that we live in a world of wounds or witness to them. But it also means that I'm now smart enough to never take a snowstorm for granted. And when one still comes, whatever else I'm doing, I make sure that I'm out playing in it-

Nate Hagens (01:10:37):

It is really that way on my brain because I feel the same way that when it gets really cold or really snowy, I suddenly appreciate that more than I did before I knew all this stuff. So thank you very much for your time, Bill. I have some concluding questions that I ask all my guests. If you have a few more minutes.

Bill McKibben (01:11:00):

I do have a couple more minutes. Sure.

Nate Hagens (01:11:02):

What do you suggest to the viewers and listeners of this program at this time of global upheaval and anxiety and recognition of climate and a different economy and geopolitics and everything, what some would call the polycrisis? What sort of advice do you have for people that are hearing your message?

Bill McKibben (01:11:21):

Well, the thing I always, I think try to get across, Americans in particular maybe have a default towards the individual at all times. So if you explain the climate crisis, people immediately start thinking about what's in their garage or what they should have on their roof or whatever. And I'm pleased that my roof is covered with solar panels and that they connect to an EV and so on. But I don't try to fool myself that that's how we're past the point where we're going to make the climate math square just like one Tesla at a time.

(01:12:00):

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So I think the most realistic and in some ways, comforting advice for people is the most important thing an individual can do is be less of an individual. Join together with other people in movements large enough to have some hope of changing the basic economic and political ground rules here. And that's I think, good sound advice for making effective change, but I also think it's pretty good sound advice for keeping your heart and soul together in difficult times. You need a crew. Trying to go it alone is psychologically difficult as it is physically, I think.

Nate Hagens (01:12:45):

That makes a lot of sense to me, and I do feel supported because of the people that follow this podcast. It makes me feel that I'm not alone voice shouting in the wilderness on these issues, so stop being a total individual and be part of something larger. I think that's great advice. How do you change your recommendations there for young people? You're working on Third Act and we have a intergenerational difference of outlook on the future. What do you tell teenagers and 20 somethings?

Bill McKibben (01:13:23):

Well, I think young people basically understand what we need to do and are doing the work. I've spent most of my life organizing with young people. I started 350.org when I was in my 40s, but with seven college students. One of the big things we did was this fossil fuel divestment campaign, which is now at \$40 trillion in portfolios and endowments that have broken with fossil fuel.

(01:13:46):

Much of that work was done by young people on college campuses, the most visible work, and they were incredibly successful. Harvard, Oxford, Princeton, Cambridge, University of California, on and on and on. Those guys when they got out, went on to found the Sunrise movement, which brought us the Green New Deal, which brought us the IRA once it had gone through the Congressional sausage-making process.

(01:14:09):

And of course, it's not just the U.S. I mean Greta Thunberg is one of my favorite people to work with in the world. I adore her and admire her immensely. What a pleasure it was to get to write her a note in June, congratulating her on her graduation from high school. Think about that for a minute. I just got tired of hearing

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people say, "Oh, it's up to the next generation to solve these problems." Which struck me as A, ignoble and B, impractical for all their energy and intelligence and idealism.

(01:14:41):

Young people lack the structural power to by themselves make change that we need on the proper scale in the amount of time that we have. And older people, as it turns out, have a lot of structural power. In the U.S., There's 70 million of us over the age of 60. We punch above our weight politically because we all vote. There's no known way to stop old people from voting, and we ended up with most of the economic assets too. So if you want to push around Wall Street or Washington or your state capital, and I do, it helps to have some people with hairlines like mine engaged in this fight.

(01:15:20):

The best part though is that we really have taken at Third Act. One of our central mandates is working with and backing up young people in this fight. And it's been tons of fun to do it. I mean, we started in on the banks for instance, because people from the Sunrise movement in the U.S. said, we want to work on banks, but most of us don't have credit cards. We don't have checking accounts, whatever. We're in high school, can you help? Yes, we can help.

(01:15:47):

I remember the first big demonstration we did was in Boston and there were two or 300 high school kids there outside these banks because they're always high school kids there. They understand what they're staring down the barrel of, and they were somewhat spryer, so they're at the head of the march. But behind them, there was a big crowd of us from Third Act with a banner that said, "Fossils against fossil fuels."

(01:16:12):

And it was fun for all the kids that were there to... Everybody was laughing and high-fiving and things because they feel most of the time abandoned, I think to their fate as if people got all the good stuff and just rode off into the sunset with leaving them to figure things out. It's tons of fun to do that kind of work and actually not that hard.

(01:16:37):

The working relationship between people, the age of grandparents and grandchildren is pretty easy. All grandparents love their grandchildren unconditionally, no matter what nonsense they're up to. And all grandchildren are smart enough to cut their

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grandparents some slack that they wouldn't consider cutting their parents. And so it actually is a very potent, powerful combination. Also, young people and old people have time. So if there's going to be change made, my sense is that these may be the two groups that together can make it.

Nate Hagens (01:17:12):

That's the decision I made 10 years ago, and that's when I started teaching college students and talking to retired politicians. I'm sure you know this as well, that the belief in climate change is pretty split along political lines in the U.S. except for under 25. Under 25, it's pretty much doesn't matter your political affiliation. You understand climate change.

Bill McKibben (01:17:37):

Yep.

Nate Hagens (01:17:38):

Yeah. Yeah. So if you had a magic wand, Bill and there was no personal recourse to your decision, what is one thing you would do to improve human and planetary futures?

Bill McKibben (01:17:55):

I'm not quite sure what it would take and if you could do it without causing all kinds of other damage, but if it was a good deal, harder to set things on fire on this planet right now, I think we'd be moving much more quickly to embrace a large fire hanging in the sky. And I do think that that is the central interesting physical transition that our civilizations will either go through or not.

Nate Hagens (01:18:28):

Thank you. Do you have any closing words for people watching this?

Bill McKibben (01:18:32):

No, just for you, just to say thank you for keeping on, keeping on and figuring out new ways in and around all this stuff. It is daunting and crazy, but it's also, if nothing else, deeply, deeply interesting, and we'll see whether or not we can come out the other side of it or not and in what sort of shape.

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(01:19:02):

I am not glib about it in any way, but I haven't given up. I don't operate out of despair. And there may come a time when I do despair, at which point I go put my feet up on the rail of my perch and drink whiskey and that'll be that. But for the moment, I operate out of engagement and I hope others do the same.

Nate Hagens (01:19:24):

Thanks for your lifetime of efforts on these issues, Bill.

Bill McKibben (01:19:27):

Back at you.

Nate Hagens (01:19:29):

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