

# Bill McKibben Address to SolarFest – July 24, 2021

Well hello friends

Another year and another SolarFest. And what a pleasure to be joining y'all.

I wish we were all gathered completely in person but that will come.

And in the meantime, we have, if not some things to be super happy about there's at least some things that we can talk about some places we're at that have some promise.

I'm not going to go there first of course. You know one of my roles in the world is just to be a professional bummer-outer of people, and I'll engage in that for a minute.

Because, hell I'm recording this on a day when there's epic flooding in China. Zheng Zhao China, where the iPhone is made, got 25 inches of rain in a 24-hour period. They got a year's worth of rain in a day, and the subway system is flooded and so is everything else.

It comes a few days after similar floods in India, in Germany, in parts of Africa, in parts of the American west. Meanwhile, of course, the nation has been blanketed with smoke from the wildfires out there so even here in Vermont we were breathing unhealthy air for a few days because forests were on fire.

More of them than they've ever been on fire at this time of the year, and not just here again; in Siberia too, and in many, many other places.

These are little polaroid snapshots of what a world looks like as the climate crisis begins to kick in.

You know, i can't tell you that I'm surprised by any of it. I've been working on climate change for almost 35 years now, and published the first book about it back in 1989.

And we knew back in 1989 what was coming. The scientists were able to warn us with considerable precision about how fast and how quickly it was going to warm. The only thing perhaps they were a little wrong about was just how finely balanced the earth systems were.

The one degree that we've raised the temperature so far; one degree Celsius, 1.8 Fahrenheit, that's been enough to cause truly enormous changes. Truly enormous and I know you know about all this so I'm not going to belabor them. But suffice it to say that we can now see changes in some of the biggest systems on the planet.

The jet stream is obviously goofy it gets stuck in high amplitude patterns for long periods of time, and that's because the arctic ocean is melting and hence there's less temperature differential between the tropics and the poles than there used to be.

At the same time the rapid melt of ice on the great ice sheet on top of Greenland is pouring fresh water into the North Atlantic, and that seems to be to be causing huge problems with the flow of the gulf stream and the other great currents that bring water from the tropics up north. The flow of the gulf stream seems to have dropped about 15 percent already.

When you're messing around with forces as big as the jet stream and the gulf stream, you're not talking about some trouble that we're going to get into at some point. You're talking about where we are right this minute.

And where we are right this minute is having to make some really serious decisions about how fast and how hard we're going to move. At the moment we've raised the temperature one degree but we're on a path to raise the temperature three degrees

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Celsius, five six degrees Fahrenheit. If we do that then we're not gonna have civilizations like the ones we're used to having.

it's just too much change, too much chaos, too quickly.

You know the high-end estimate from the U.N. for climate refugees this century is about a billion human beings on the move. Think about that for a minute; try to imagine a planet with that many people in motion, and you begin to understand that it just won't work, can't work

So our job is to figure out how to hold that temperature increase as low as we can, to two degrees, or maybe one and a half. This is not going to be easy.

It's what we pledged to do at Paris; all the nations of the world. But we have not put the plans in place to make it happen. Again, on this kind of current trajectory we're talking three or three and a half degrees Celsius.

In order to change that so that we'd hit one and a half degrees, even to have a chance of hitting that, the world scientists have given us an almost literal deadline. They've said that unless we cut emissions in half by 2030, which is now eight and a half years away, our chances of hitting those Paris targets are nil.

So, cutting emissions in half in eight and a half years is a big, big challenge. It's on the bleeding edge of the possible. But when you have to do something, then you do what you can. And in this case, we come with two assets; two things that have happened over the last decade that at least give us an outside chance at what we need to be doing.

Thing one it's, well it's the work that all of you started around renewable energy. And it has been picked up and amplified so many times by now scientists and engineers around the world.

The most important statistics about climate may not actually have to do with the temperature right now, they may have to do with the fact that we cut the price of renewable energy by an order of magnitude: 90 percent over the last decade. What had been expensive power is now cheap power; the cheapest power on the planet. And that plummeting cost curve is now extending to batteries as well, so we have more and more options for storage.

What this means is that in most of the world sun and wind are the cheapest ways to power things. What that means is that we're no longer fighting uphill against economic gravity. The economic winds are at our back. So, if we wanted to make big fast wholesale changes in how we powered our world we could. But it will not happen through economic forces alone, at least not fast enough.

Yes, 50 years from now the planet will run on sun and wind because it's, you know, all but free and and closer to free with every passing week. But we don't have 50 or 75 years. If we take anywhere near that time to make this transition then the world that we run on sun and wind will be a broken world.

And so, our job is to make things move much faster. Much faster than is convenient economically, politically, and that's a political task.

And so, here it is where I tell you about the other thing we've done over the last 10 years that's so important. And that's again with the help of many people in this audience, we've all built together a movement. A big, worldwide movement. Maybe the biggest worldwide

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movement there's ever been. Which would be good because climate change is the biggest worldwide problem there's ever been.

Some of it started in Vermont.

You know, 350.org which I helped found with some students at Middlebury, was the first iteration of a global climate campaign. And it's done good work. We've organized 20,000 demonstrations in every country one earth except North Korea. But probably the best thing we did was just open up this space so that so many others could pour into it. And so, Extinction Rebellion and the Sunrise Movement that brought us the Green New Deal. And maybe, most beautifully, the high school and junior high school students that now are the single biggest part of this fight.

You all know about Greta Thunberg in Sweden, and you should. Greta is fantastic. I adore her; she's one of my favorite people to work with on earth. And she'd be the first to tell you that the really good news is there are ten thousand Greta Thunberg's scattered across the planet. And they have 10 million followers. If anyone was ever worried about whether kids today were apathetic or something; worry no more. They're doing their job, and they need everybody else joining in.

They especially need, I think, older people. Because so much political and financial power is accrued to those of us in the baby boomer and the silent generation above it, most of the assets ended up with us, fairly or unfairly. And so, we have very important role to play, and one that we haven't played as well as we could have so far.

I think a way to say it is all the work we do as individuals is very important. All the work we do putting up solar panels on our own houses or even in our own communities. I'm awfully proud of the panels that have been up on my roof for decades now. And they work great and I love the fact that they power my car and on and on. But I'm realist enough not to think that that's how we're going to solve the problem in the time that we have.

I don't think you can make the math work one Tesla at a time and one vegan dinner at a time.

I think the most important thing an individual can do is be a little less of an individual and join together with others in movements big enough, and savvy enough, and aggressive enough, and all the rest, to make the basic political and economic shifts that the moment requires.

And we can see some of that starting to happen.

That's what the infrastructure bill in Washington is about. It's about suddenly being able perhaps to build EV charging stations in huge numbers. and so on and so forth.

So, we need to get behind as many of these things as we can because though the problem we face - the crisis we face, plays out in our local lives and places, the solutions have to come from everywhere too. There's no way we can solve this one place at a time, because it's coming from everywhere. And so, we do what we can and sometimes we win.

We've had great victories in the past year. We've watched President Biden kill the keystone pipeline once and for all. And after 10 years of work and many trips to jail that was a big day for me.

We've watched people really stand up in this fossil fuel divestment movement that's become the biggest anti-corporate campaign in history. There's now 15 trillion dollars in

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portfolios and endowments that are divested from fossil fuel, and it is taking a toll on the bad guys. Shell Oil said in their annual report two years ago that that divestment had become a material risk to its business. That's good because Shell Oil's business is a material risk the life on planet earth. So, we're, you know, we're kicking them where it counts a little bit, and we've got to keep it up.

And we've expanded to be taking on the banks and asset managers and insurance companies that are providing the financial lifeline that the fossil fuel industry needs. We've got to amp all that up and it's got to be smart, and it's got to be global, and it's always got to be done with the constant thought in our heads about who the biggest victims here.

They're always the people who've done the least to cause this problem. And since we're not going to stop climate change cold, since there's already a lot of damage and more to come, part of our work needs to be about caring for those who've suffered.

I think about this a lot. You know last year was the most active hurricane season we've ever had in the

Atlantic. No surprise because hurricanes take their power from the warm water on the sea surface. We ran through the alphabet; we were deep into the Greek alphabet by November. The last two storms, ada and iota, crashed into Central America and they devastated it.

They think the damage to the economy in Honduras was about 40 percent of GDP. Our worst storm ever; Katrina did damage about one percent of our GDP, to give you some comparison.

So of course, there's lots of people coming north from Honduras and Guatemala. how could there not be; they can't grow food anymore because there's a foot of sand on their fields. Or the bridge and the road that they needed to get produce to market is washed out and not coming back anytime soon.

So, when people get to our border, who knows what their legal status would be; but their moral status is strong. nobody in Honduras or Guatemala caused climate change.

The four percent of us who live in this country put 25 percent of the world's co2 into the atmosphere, and it's all still there. You know it lasts 100 years or more.

So even doing the things we need to do in our own lives and homes doesn't write off the carbon debt that we've accrued, nor our responsibility.

It goes very deep, yes, to make our own lives work better. But then to make our own communities work better and then to take care of those who, through no fault of their own, are the victims of what we've already unleashed.

That sounds like an intimidating amount of work, and it is. But it's also a remarkable opportunity to rebuild this world on slightly different lines and to take it out of the hands, a little bit, of people like the fossil fuel industry, and put it back on more local basis.

So, all I'm saying is I know everybody at SolarFest is already working hard on this. Keep up what you're doing and keep expanding what you're doing.

We don't know if we're going to win. We've waited a long time to get started. The physical momentum of destruction in the planet's large and serious. All we can do at this point is move as fast as we can and hope we can begin to catch up a little bit to the physics and chemistry of climate change.

And if we do, it'll be in no small part because of people like you.