John Farrell (00:00:00):

I'm John Farrell. I'm the director of the Energy Democracy Initiative at the Institute for Local Self-Reliance, where I'm also one of the two co-executive directors, ILSR. As you may or may not know, the institute focuses on building local power and fighting corporate control across the economy. And our energy democracy initiative is very much focused on that as well. And that is really the core to the topic of this conversation, which is a focus on how monopoly power and corporate power impact our ability to make progress on climate change. So for the run of show here, I'm going to give about a 10 to 15 minute overview of a report I published last year called Upcharge that talks about the issues of monopoly power and how they intersect with our ability to fight climate change by deploying clean energy. Then I'm going to stop that introduction. I'm going to bring our speakers on screen.

(00:00:48):

I'm going to give a little more intro to the incredible wealth of knowledge and expertise that they bring to this conversation. I've got a few questions that I've already prepped to ask them about related to the issues of monopoly power, but we'll also be taking questions from you. You can put 'em in through the q and a function and I'll talk a little bit more about that when we get to the conversation as well. And then I'll leave about five minutes at the end just to do a quick wrap up, to give you to share with you some of the ideas that ISR and others have generated and some from our guests that are techniques that we can use to fight monopoly power and to accelerate our progress on climate change. So the purpose of this conversation is to talk about the climate inaction that we get when we have utility monopoly power impeding our progress on clean energy and on climate mitigation.

(00:01:37):

And I'm going to give, as I said, an overview of this report upcharge the utility upcharge that is caused by the structure of our electricity system, which is organized around monopoly electricity distribution. And really the system in some ways is designed as I talk about in the report and four, to offer four key features that we might not find particularly helpful. One is that it is letting utilities maximize profits at the expense of consumers that is allowing them to delay on clean energy at the expense of our climate to pollute at a high cost to human health, especially in marginalized communities, and also to undermine our faith in public institutions in the ways that these utility companies use their resources to lobby and to make campaign contributions to those who make the decisions. In the report, I described this as a vicious cycle that utilities overcharge captive customers to pad profits to shareholders.

(00:02:29):

They pour profits into political activity that reinforces their monopoly power and strengthens that guarantee of their profits. And then they use that monopoly power that they have to undermine their competition in favor of their own business. And this is really this idea of a platform monopoly, which I'll talk a little bit more about, and the control over electricity distribution is kind of the key feature of this research which shows how utilities can use that particular power not just as a big corporation, not just as a wealthy entity, but it is the power over the grid system that actually inhibits our most successful tricks and techniques for fighting climate change. And then as I mentioned, the problem is very costly. This includes thousands fewer clean energy jobs as utilities block competitor investments in clean energy and high electricity costs. We have record storms and wildfires that are juiced by utility carbon pollution including and much of that are struggle to have a successful intervention.

(00:03:28):

And climate change has been inhibited by utilities funding, climate denial ads like the Edison Electric Institute, the trade organization of investor owned for-profit utility companies. And there's also this impact on our democracy. We see widespread deceptive on ethical and even illegal political activity among monopoly utilities. Lawmakers are influenced by money that is taken from captive utility customers and then given to them as campaign contributions or that they experienced through lobbying.

And we have a regulatory revolving door where we have unfortunately relatively lax oversight caused by too many regulators who leave then to take jobs at utility companies and are thinking about that while they're in that regulatory seat. So having a system that is designed this way is really causing a significant issue for our economy, for our climate and for our democracy. So what is a platform monopoly? This is an important definition as part of this conversation, but a platform monopoly is a dominant company or a small group of companies that uses their control over a platform or a marketplace to gatekeeper and hinder competition.

(00:04:28):

This is really important to understand in the way that utilities act. It's not just that again, that they are big and wealthy, it's the fact that they control the access to the electricity system that we need to transform and to be a cleaner system in order to fight climate change. And there are other examples, and you may have heard about them in the news because the Federal Trade Commission or Congress has been investigating them. Amazon for its marketplace, Google for its online search and ad platform, but invest owned electric companies are among those same platform monopolies. And it really comes down to this, and this is a picture of Thomas Edison's right hand man, Samuel Insell, and really it was his innovation was to reach out to a state legislator in the early 20th century and say, we would love you to protect us from competition in exchange for being regulated.

(00:05:17):

And they found that to be very profitable for their companies and it has come at the expense of many of the things that we could do to make progress on climate change. I want to talk quickly about how monopoly power adds an upcharge or a barrier to our progress on climate change. One of the things is that utilities say in their own words, this is from a utility witness that was part of a proceeding in Arizona that they fight things like rooftop and community solar because it presents a danger of utility shareholders, what they specifically mean in terms of danger, there is a danger to their profits. So utilities are blocking some of our climate solutions because they inhibit their ability to make more money. Utilities also inflate their energy costs. Mark is going to talk more about this, but they charge as much as 20 billion more per year or 150 annually per residential customer according to one study, then a low risk investment ought to cost consumers.

(00:06:10):

So they're charging us more than they ought to, given that they investments that they make are very low risk because most of them are approved by state regulatory commissions and are virtually guaranteed that they'll recover those costs. Utilities are also escaping accountability. You have Pacific Gas and Electric, which serves Northern California as the utility that's been granted a monopoly by the state to serve electric customers in that area. They were found guilty of mismanagement leading to the San Bruno gas explosion in 2010. They were found guilty of malfeasance and leading to the tubs fire in 2017, which was only eclipsed in size by the campfire in 2018, which was also ignited by Pacific Gas and electric equipment. And they were found guilty with the Dixie fire in 2022. And amazingly through all of that Northern California's monopoly utility still Pacific Gas and Electric. So we find that it's really difficult when you can't hold these utilities accountable when they continue to be a default provider.

(00:07:08):

Despite all of the things that they might do wrong, it's very difficult to make sure that they're held accountable. Utilities are also under investing in marginalized communities. This was a podcast I did with Alex Hill, author of report about this problem in Michigan where DTE energy systematically under invested in communities where there are high proportions of low income residents or people of color. And so the grid is basically not as strong there and is more inclined to have outages and less able to take on more clean energy. One of the key ways that we can solve our climate problem and then utilities are also undermining democracy. This is not unique to Michigan, but this is a story from the Energy and Policy Institute about the fact that most state lawmakers in Michigan take money from DTE Energy in terms of

campaign contributions. And so when they're considering things like utility accountability bills or climate bills as they were in the last couple of years, it's really difficult to get those things to pass when so many of those lawmakers are taking money from the utility companies who are desperately opposed to this legislation to advance our climate problems.

(00:08:14):

So what could we get? What is the opportunity? We are being blocked by utilities that are causing this upcharge. We are being trapped in this vicious cycle by the rules of a system that enable utilities to have so much power. Here's what we could do. We can deploy clean energy really fast. These solar panels are actually on my own house in Minneapolis, Minnesota. It was six weeks from the time that I signed the contract to the time that these were on my roof producing electricity and sending electricity back to the grid. And we can do a lot of clean energy development really quickly if we're able to invest at this level in ways that maybe the utility isn't the biggest fan of but can serve our climate goals. Even community scale solar arrays like this one and an exce of the Minneapolis St. Paul area can be developed very quickly as well, often in one to two years from the time that you get that first pre-development component of the project started until this project is connected to the grid and producing electricity.

(00:09:12):

And it's not just that the small scale things can be done very quickly and cost effectively, they also have a really important role. So this is a quote from a Canary Media article right after the California Public Utilities Commission opted to sharply decrease compensation for rooftop solar. And what they said was residential and commercial solar installers had had been putting more solar energy on rooftops in California of homes and businesses than all the utility scale solar projects in the state over the past, the prior two years because those large scale projects struggle to acquire the land to get permits and to secure power grid interconnections that they need to get built. So we need all of it. We can't just rely on big utility scale stuff. It's bogged down and we'll talk more about this later, especially around the transmission capacity. In order to connect those projects, we need everything big and small and that's why the small stuff is very necessary.

(00:10:03):

It's really cost-effective to do small scale rooftop solar and batteries. There is a study called Local Solar for All, which you can find this tweet by Sammy Roth from the LA Times who covers energy issues. Covered this study a few years ago that we'd save half a trillion dollars if we really ramped up the production of small scale solar and energy storage in our pursuit of clean energy and climate goals. There was a recent study published in November, 2024 that found that California's rooftop solar is a benefit, not a cost to the state that on net even when you take into account all of the costs and benefits of that solar, the customers themselves who have solar benefit, they get reductions in their bills. But the study here by Richard McCann and I just did a podcast interview with him that will be published on local energy rules, showed that in fact it was a net savings to all customers because this rooftop solar was largely replacing peak energy generation that would otherwise have to be built, but it was being paid for by those consumers themselves as who are investing in rooftop solar solutions.

(<u>00:11:11</u>):

When we have local solar, we get widespread benefits because a lot of people can become members of community solar projects and each one of them be a little investors in these solar arrays. And so it's our opportunity to make sure that the benefits are work on climate actually accrued to everyone. And of course it creates a lot of jobs. There was a filing by one utility in Minnesota that found for every million dollars spent on rooftop solar, it creates 30 times more jobs than a million spent on utility scale solar. So we have a huge opportunity to put a lot of people to work solving our climate problems if we are investing both at the large scale and the small scale. And the last thing is that small scale energy, local energy is really all about wealth building as well. That there are key benefits when you can have local energy, you can have local ownership and that means that you can have increased savings, that if you own

your solar panels, you can get a significantly greater lifetime savings compared to third party ownership if you were renting those solar panels and it increases the value of your home.

(<u>00:12:10</u>):

And there are similar significant benefits if you are investing in a community solar project, if you are for example, part of a cooperative and actually have part ownership of that enterprise and of those panels and aren't just a subscriber. And these shared community assets, especially if they have energy storage, can also contribute to resilience. So we see local ownership stepping up the benefits of clean energy, not just about climate and health and lower costs, but creating more jobs and bill savings and resilience and having more community decision making when you have local ownership as well.

(00:12:45):

Sorry, the last thing was not effect just about the local ownership benefits, but also that having distributed clean energy also protects our democracy by dispersing who owns and controls our energy systems so that we don't have things like massages and country club memberships being paid for by electric rate payers and instead have a robust and diverse supply of energy and clean energy that meets our climate needs. So to summarize, monopoly utilities are a major barrier to climate progress and we really can only win if we break their chokehold over the distribution and over our public institutions and unlock the opportunity for energy democracy that is fast, that is necessary for our climate goals that can be very effective, have widespread benefits and protect our democracy. So I am excited at this point to stop sharing my screen and to invite our guests in for this conversation and I will give an introduction of each of them as they come back on camera and here we are.

(00:13:47):

So first of all, I just want to thank Bill McKibbin for joining us. Bill McKibbin is an author and an activist and a founder of Third Act, which organizes people over age 60 for action on climate injustice. He has many of you probably already know, helped found three fifty.org, the first global grassroots climate campaign, which is organized protests on every continent including Antarctica for climate action. He serves as the Schumann Distinguished Scholar in environmental studies at Middlebury College and is a fellow of the American Academy of Arts and Sciences, and he is won of the Gandhi Peace Prize as well as honorary degrees from 20 different colleges and universities. He was also awarded the right livelihood award, sometimes called the alternative Nobel in the Swedish parliament. So Bill, I'm so glad to have you and thank you for joining us.

Bill McKibben (00:14:29):

What a pleasure to be here.

John Farrell (00:14:31):

Second, I want to introduce Mark Ellis. He's with the fellow with the American Economic Liberties Project and an independent consultant. He works as an expert witness and finance and economics and utility regulatory proceedings. In fact, before the webinar started, we were talking about a utility acquisition proceeding in Minnesota. He's been working on where we may have a good outcome there of preventing of private equity, takeover of utility, just one of the many things that Mark has worked on since he was the chief of corporate strategy and chief economist at Sempra, which was an investor owned utility company and he served as many other roles in the utility energy sector, so he knows it from the inside out. He's as an MS from MIT's Technology and Policy Program and a BS in mechanical engineering from Harvard. As I said, he knows this sector inside and out. You can also hear him on a local Energy Rules podcast that we did earlier this year talking in more detail about his work. So Mark, thank you so much for joining us today. I appreciate it. Great

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Mark Ellis (00:15:28):

To be here. Thanks for inviting me.

John Farrell (00:15:31):

And then finally, I want to introduce Shelley Welton. She's a presidential distinguished professor of law and energy policy with the Kleinman Center at the University of Pennsylvania and Pen Carey Law School. Her scholarship focuses on how climate change is transforming energy and environmental governance within the United States and trans nationally and has appeared in array of publications including the Yale Law Journal, Stanford Law Review, California Law Review, Columbia Law Review. I could go on and on. She also joined me on a local Energy Rules podcast to talk about her recent research using a federal grid planning authority to overcome utility manipulation of the process to build new transmission power lines, which I will definitely ask her more about today. So Shelley, thank you so much for joining us as well.

Shelley Welton (<u>00:16:10</u>):

Delighted to be a part of this group. Thanks for having me.

John Farrell (00:16:14):

So I'm going to pose a few questions. As I mentioned before to our panelists, hopefully we're going to have a little back and forth in conversation as well. And it would encourage you as attendees, you can ask questions through the q and a feature. They do sort of disappear into the ether or that's what it will look like, but I will be able to see them as well, the other panelists. But let me kick us off by asking you, bill, you've been advocating for Swift action on climate change for decades. I was wondering if you could share an example or two of how you've seen the power of incumbent utility companies slow our progress and if you've seen any examples of how much faster we maybe could move, if we could push them out of the way.

Bill McKibben (<u>00:16:50</u>):

Sure. Greetings all, let me apologize first for my somewhat unorthodox appearance in keeping with the theme of the day. Our local utility has managed to shut down the power today. So I'm about 25 miles from home and library parking lot, stealing wifi. I have all the windows up because it's noisy here. So if you notice sweat forming on my brow, it's not because of the perplexity that I feel at John's questions. It's just the summer heat. So there are countless examples of utilities getting in the way. I remember to 10, 15 years ago writing about for the New Yorker about what was going on in Arizona where they were taking rate payer money and using it to fund campaigns of people running for whatever they call the Public Service Commission in Arizona who were then providing sweetheart regulation for the utilities. I mean, it was the most perfectly closed political circle I've ever seen. And the people who were opposing it weren't just environmentalists like me, it was like Barry Goldwater's actual conservative followers in the state of Arizona saying, this is nonsense.

(00:18:10):

What I really want to do is just briefly set the context here about how much faster we could be going. I just published a big piece in the New Yorker a couple of days ago, sort of a cut from my forthcoming book, which will be out in a few days. Apologies to George Harrison. It's titled, here Comes the Sun. And the point that I was making in this New Yorker cut was that around the world now solar energy is absolutely exploding since we passed the point where it became now we live on a planet where the cheapest way to produce power is to point a sheet of glass at the sun. And in most cases, that new economic reality is having unbelievable consequences. Coal Poland, heart of the European coal belt produced more energy from solar power than from coal in May. In May the Chinese were putting up the

equivalent, well, they were putting up three gigawatts of solar panels a day in China, a gigawatts, the rough equivalent of a coal-fired power plant.

(00:19:17):

They were putting up three of them every day in terms of solar panels, on and on and on around the world where this boom is just underway, including in a few places in the us, Texas most remarkably, where a kind of wide open freewheeling energy system is letting lots and lots of renewables onto the grid very fast. But in most of the country that's not happening. And one of the big things in the way are incumbent utilities that just are dragging their feet in every possible way. They don't like change, I think for lots of reasons. Some of it may be just sheer lobbying by the fossil fuel industry. A lot of it's just dedication to doing things the way that they've always been done no matter what. And that third act where we organize, as you say, old people like me for action on climate and democracy, one of the things that we've discovered is that the public utility commissions have been the most overlooked part of the American political system for decades protected by a force field of their own sheer boringness. And now we're dispatching lots and lots and lots of older people who can sit through those meetings all day on Tuesday and Wednesday and Thursday because they're retired and because they have their basket crocheting or their crossword puzzle or whatever to get them through the truly dull parts. But just being there is beginning to yield some real effect as people begin to shine light on this absurd closed door revolving door situation that you've described, John.

John Farrell (<u>00:21:09</u>):

Well thanks so much. And that's a great segue actually to a question I had from Mark because it is about one of those very dull kinds of proceedings that happen but are so consequential in terms of the impact on customers. So Mark, one of the things that we find is that utilities often choose to essentially overspend on power infrastructure, which might seem odd because we want to build a lot of stuff right now in order to deploy clean energy. But a lot of the things that they're building are either sort of inefficient power lines or even fossil fuel power plants. Can you talk about this concept of rate of return and how it motivates for-profit utilities and their investment decisions? And touch a little bit on the work that you've been doing to confront how we're overpaying investor owned utility companies and how it drives them to make these climate negative and consumer negative decisions.

Mark Ellis (<u>00:21:57</u>):

Yeah, sure. So like to, you mentioned at the beginning the regulatory model that we inherited or that we still have that was basically instituted by Samuel Insell, who is Thomas Edison's business partner, sort of right hand man. And we're still living with that. It's over a hundred years old, this very old regulatory model. And I like to describe that from a financial perspective. It's the ultimate two for one deal for utility shareholders. So basically utility regulation, it's called cost of service regulation. And the basic idea is that utilities are allowed to recover all reasonably incurred and prudent costs and then they basically aggregate those and they pass 'em through in rates and it's pretty simple for ongoing costs like salaries and fuel and purchased electricity and so forth. They just roll them up and divide 'em by the number of kilowatt hours and recover then rates.

(00:22:51):

It's not quite that simple, but basically those costs are recovered as they're incurred. But for long-term investments like in power plants and in pipelines, transmission lines, things like that, they don't recover them as they're incurred, but over time and they get to recover two components, they get to recover the actual cost of the investment. You can think of that as the principle on your mortgage. And then they get to recover a profit on the amount of their investment, which is the interest on your mortgage. So the interest amount is actually set not by a market or anything else, but it's actually set by the regulators. So the rate of return is the amount of profit that utilities are allowed to recover in rates. And like I said, it's

set by the regulators and in principle it's supposed to be equal to the amount of profit that they would earn if they were competing like in an ordinary market and face competition.

(00:23:48):

So there's a longstanding expression, regulation is a surrogate for competition, but in practice, the utility regulatory commissions authorize a level of profit that is about nearly twice, maybe 60 to 80% higher than their actual market-based cost of capital. And this sounds really arcane or the rate of return is higher than the market-based cost of capital. But what it means is that for every dollar of shareholder capital that they invest, it turns into \$2 in their stock price. So basically the regulators are saying, Hey, invest a dollar in that transmission line and your shareholders will get that dollar back plus an additional dollar. So I know if somebody came to you and said, Hey John, I got a deal for you. Give me a dollar and I'll put two in your retirement account. Are you interested? I think I can predict the next two things that will come out of your mouth are one yes, and two, am I limited to a dollar?

(00:24:46):

Can I invest \$2? Can I last \$10? Can I invest a million dollars? That's essentially the deal that utilities have. So they're just behaving like any other profit making, profit driven institution behaves. They're trying to maximize profits. And if you think about from the manager's perspective, like the CEO of these large utilities, 80 to 90% of their compensation is tied up in stock. So if you go to them and say, put in one, it turns into two for that much of your compensation, of course they're going to be super aggressive and pursuing investment. So the term for this is they call it capital bias. So every time they're asked to do something, the first thing they think of is, how do I deploy capital to do that? And not only deploy capital, but there's obviously you can see a huge incentive to deploy very, very inefficiently.

(00:25:36):

So their first solution is always going to be, what's the most expensive thing I can do to solve this problem? And they get away with it because as Bill mentioned, the public utility commissions are like, oh, they're perceived as boring and it's very arcane and everybody overlooks it. And the commissioners themselves tend to be political appointees. And the utilities have a very effective strategy. They sprinkle money everywhere, not just to the regulatory commissions, and they actually do sponsor regulatory commissions, but they actually sponsor the consumer advocates. They sponsor academics, environmental groups, and basically they use that money, that sponsorship to silence criticism. So they tilt the entire communication atmosphere to silence critics and dampen opposition to what they're doing. But the rate of return is really what drives all of this sort of profit seeking. So interestingly, there's a longstanding Supreme Court case going back to the 1940s that gives guidance to regulators about they should be setting that rate of return and basically it's supposed to be equal to the market-based cost of capital.

(00:26:50):

So you have this longstanding precedent from the Supreme Court saying, Hey, the rate of return should be equal to your market-based cost of capital. As I mentioned, it's actually much higher, but if it were equal to the market-based cost of capital, that two for one deal evaporates. So what happens is for every dollar they invest, and basically that's what ends up in their stock price. So they don't have this powerful incentive to always choose the most expensive thing that kind of evaporates. So at a certain point, if it's truly equal to the cost of capital when they invest, they're just running on a treadmill, they're staying in shape. And you can see the difference in terms of this incentive structure. When you compare publicly owned utilities to investor owned utilities, their rates are about 15% lower and always have been because they don't have that incentive, but there's no difference in terms of their customer satisfaction or environmental performance, safety, reliability. In fact, in many instances the publicly owned utilities are much better. This is not necessarily a plug for public utility ownership because that's a separate discussion, but it is a plug for, hey, take away that incentive to just always pursue the most cost effective thing.

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John Farrell (<u>00:28:05</u>):

Mark, thanks so much for explaining

Mark Ellis (00:28:07):

That cost effective thing, the most costly thing.

John Farrell (00:28:11):

Yes, that was a accordian

Mark Ellis (00:28:12):

Slip, what they should be producing the most cost effective thing, and they tell the regulators that's what they're doing and the regulators accept it, but they're actually, they have a very strong incentive to do the least cost effective thing. Sorry.

John Farrell (<u>00:28:26</u>):

Thank you so much, mark. I really appreciate you too. Giving a baseline understanding for folks about how the system works. I think one of the things that surprised me in learning about this was how both absurd the outcomes are, but how very rational the participants are. If I was a utility executive, just like if I were that retiree wanting to give you the money for the retirement program, of course I would want to do this. Of course, I would want to make investments in infrastructure and maximize how much I do that because that is how I'm getting rewarded right now. Shelley, I want to turn to you because one of the really crazy oddities about this system is that we have all of these studies out there saying one of the things that will really help the clean energy transition is getting more capacity in our high voltage transmission system.

(00:29:14):

Some of that is to support large scale wind and solar, which is one part of the solution. And then part of it is to balance these resources across regions. So I imagine in Minnesota in the winter it's cloudy and we don't have a lot of sunshine. We're going to need some solar energy from somewhere else perhaps to help us get through a really dark week. Given what Mark explained about utilities investment incentives, one of the things that I have found so surprising is that utilities are actually less in transmission capacity in recent years. What is going on, Shelley?

Shelley Welton (00:29:47):

Yeah, I like how you framed this, John, because I do think this is the puzzle that has motivated a lot of my recent research is utilities like to invest in big things to make money as Mark explained so well. And yet all of these studies coming out of Department of Energy, out of our fantastic national labs are saying one of the best answers for climate change is to build these big, long expensive transmission lines to connect windy and sunny parts of the country to parts of the country that need that energy. And I think the conundrum is actually really well explained by exactly what Mark is talking about, but it requires getting into maybe even a more boring topic than state utility regulation, which is regional transmission planning. So maybe I'll preface this just by saying whereas a lot of the decisions about the generation that gets built happen at the state level because by law, by federal law states control those decisions, decisions about transmission.

(00:30:47):

So the big lines that carry power happen at the federal level, they're under the control of the Federal Energy Regulatory Commission. And one of the answers to the conundrum that you're posing about why do utilities not build these big lines is that they are actually building a lot of transmission. They've been

spending 25 billion a year on transmission recently. The projections are it's going to be closer to 30 the next few years. They're just not building the kinds of lines going to facilitate a clean energy transition. So utilities prefer to build small local lines that are within their monopoly service territory where they're guaranteed that they're going to get that cushy rate of return that Mark has just described to us. These are the kind of lines that they like to build. The kinds of lines they don't like to build are big long distance lines that are going to connect multiple utility service territories, span several states and require complicated battles about who gets to build it and who gets to recover the costs and how those costs are shared among all of the beneficiaries of this line.

(00:31:54):

And so what you've seen is basically like a utility bias towards the safe money investments here and away from the big regional projects that would all the models suggest not only really empower clean energy but save the system a lot of money. And we're talking on the order of billions of dollars a year of consumer savings, maybe a hundred million dollars over the next several decades of spending. So utilities A, don't have an incentive to save consumers, hundreds of billions of dollars and B aren't naturally going to gravitate towards these lines that actually are much higher risk than these local contained transmission lines. And so the way that this all gets worked out is through regional transmission planning and one of the things that I've been looking at is why do we not have planning processes that are smart plans that would force utilities to build the big long distance lines that we need instead of over-investing in small local lines?

(00:32:48):

And maybe we can get more into the details that people are interested, but I'll just say by way of overview, one of the arguments that I make is that we have essentially outsourced transmission planning to utilities themselves. So utilities basically put together local plans, add them up into a regional package, send them to federal regulators and say, Hey, this is our plan going forward. And the federal government has, in my opinion, been far too willing to sort of rubber stamp the plans that come out of here when you hold up the beautiful models that we create of what the system could look like in our national labs next to what actually comes out of regional plans that are supposed to be just and reasonable for consumers. They just look more different than should possibly be rational under a system where regulators are doing their job well.

John Farrell (00:33:37):

I just want to emphasize too that Shelley talked about this in more detail and we did a little bit more kind of background education for myself in that conversation on our podcast conversation, which was I think back in November, October and November last year. So just encourage you if you want to learn more about this, I'll also ask her to share a little bit more about some of the ways that we can try to solve this. I just want to pause for a second and summarize some of what we've heard, which is between this rate of return issue that Mark was talking about and the incentive, the capital bias and the incentive to invest in expensive things and the way in which that plays out. Then in transmission investment, as Shelley talked about with the smaller scale projects that aren't really meeting the need, utilities are sort of inhibiting climate progress in several fronts.

(00:34:22):

We're making less progress, deploying clean energy and we're paying more for electricity than we ought to be, which actually makes electrification less appealing, which is another one of our key tools, which is saying, Hey, let's take the stuff in our houses that runs on fossil fuels like furnaces and water heaters and what have you or our cars and using electricity to power those things. So we get hit from both sides when utilities are acting in what's unfortunately a very rational for them way, but very unhelpful way. Then in terms of solving climate. Bill, I wanted to come back to you as someone who has really advocated for a lot of solutions and you talked about some of the success we're seeing around the world and deploying

clean energy third act and others are working on passing policies or checking in and trying to scrutinize the minutiae of what happens at these regulatory commissions. Have you seen good examples of climate policies that both combine this focus on reducing emissions but are also trying to address the power of incumbent utility companies getting us closer to that, removing more of the barriers to moving forward?

Bill McKibben (00:35:31):

There are not as many as one might hope, but I would say I've had the pleasure though I'm not there at the moment of living in Vermont for many years and our local utility, green Mountain Power has actually been an interesting example of the kind of things that can get done. The biggest power plant in Vermont now is the collection of batteries that Green Mountain Power has helped customers buy and install in their homes. It's the single biggest dispatchable source of power that we have in the state. That's a very useful thing. We've talked a lot about big, and I'm glad we have about big solar projects, but it's important to remember that there's also a huge role to be played here, especially as technology changes with lots and lots and lots of very small micro projects in people's houses and apartments across the country because now we have the technology to link those things together in these remarkable virtual power plants and so on that really are a profound way forward.

(00:36:48):

One of them, all of this talk about all of these things if we're going to get done, what we need done relies on people paying more attention to it. And though I'm extremely glad that there's a great infrastructure of people who are paying lots of attention to utility rate structures, public utility commissions, I'm happy that we're a part of that. I also understand that for most people, that's not going to be part of and shouldn't have to be part of their daily discourse here. It should be enough to know that we have available now cheap and clean renewable energy that we want our leaders to put to use. That's why we're doing this Sunday thing on September 21st that the fall Equinox a kind of nationwide celebration of the possibilities of clean energy now in order to make the people who are standing in the way from Donald Trump on down in order to identify them for the roles that they are playing and utilities are a big part of that.

(00:37:58):

So public mobilization around things that people can easily see and understand and that they already have a great affection for Americans, despite all the efforts to tell them otherwise, still love solar power and wind power. It pulls through the roof and across partisan lines. If we can get that message through, then it makes all the efforts of people, mark and Shelley and everybody else doing the in and out nitty gritty work of trying to move the ball forward a foot at a time. It makes it much easier if we can change the playing field in that more profound way.

John Farrell (00:38:44):

Thanks so much Bill, and I am really glad that you mentioned Sunday. I want to make sure people get to hear more about that and we'll have some links to your website and to others. In terms of the planning of Sunday, I want to come back to the rate of return issue because I've got I think three different questions in the chat about various components of this market. People are really excited about figuring out how we fight this. So we have, I think the sort of bottom line is, is there a way to effectively fight inflated rate of returns? What are the potential impacts in terms of clean energy investment and lowering electric bills? And there was a couple of different questions. One is how do we do this? And I'm hoping you can maybe talk a little bit about where it already is happening and then some folks were saying, is it legislation? Is it regulatory intervention? Is it maybe even ballot initiatives? I don't know if you have some sense of what are the broad opportunities or different approaches that could be used?

Mark Ellis (00:39:45):

Yeah, so I have to say excited and rate of return are two words you don't often hear together. So that's very gratifying and frankly that's sort of been my personal mission the last few years is to try to draw attention to this issue because having been a utility insider, I saw just how powerfully it drives investor drives utility behavior, how this rate of return, these excess rates of return drive utility decision-making to the detriment of consumers and the environment and all kinds of other public policy goals in the public interest. So what can be done, what's the expression to all of the above strategy? So a lot of different things can be done and that's partly, I joined a LP not quite a year ago, and that was basically my goal. They're a public policy anti-monopoly think tank and do tank. And we've been working on a number of fronts.

(00:40:40):

So some of them have to do with working with state and federal legislators and some of them are very receptive. Interestingly, it appears to be more federal legislators are more interested in this issue than state legislatures. State legislators, which is a little bit strange because federal legislators don't have any jurisdiction for their PUCs, but their constituents are screaming, they're just so upset. So we've been working with a number of state legislators. In fact one of them in New York, he's a lawyer and he decided I'm going to go cross examine the utilities rate of return witness in a regulatory proceeding. I'm going to intervene myself. I've never heard of that. I've never heard of a legislator in any state ever doing that, but he did. He did it last month. He actually cross examined this witness and he's filing briefs and that's just awesome. Never seen that.

(00:41:33):

So just starting to put it on the political radar screen states, there was a question about ballot initiatives. Actually five states have introduced legislation, unfortunately it hasn't gone anywhere, but they've introduced state legislation codifying this rate of return should equal to the cost of capital. It's derived from Supreme Court precedent, but it's actually, there's no law actually saying the rate of return must be equal to cost of capital. It's just that's the conventionally accepted interpretation of these Supreme Court cases. So these states want to make it law. The states are Connecticut, Rhode Island, New York, Florida, and New Jersey. Interestingly, Florida was introduced by a Republican. So this has broad bipartisan appeal because everybody hates their investor owned utility, right? Everybody knows they're just ripping me off. So there was the legislative and then working with federal legislators, making it more political. I working, I think there was a question about legal action and who would you go after? That is an area that I'm also exploring. It's much tougher because utilities by law have all kinds of protections. Basically you would think, oh, they're monopolies, let's go after them for being abusing their monopoly. But they're state mandated monopolies. They're set up by the state, and when the states do that, they basically protect them from any kind of anti-monopoly or abusive behavior. So it's really challenging, but we are exploring is there an angle there that we could go after?

(00:43:07):

We'll see if that one's a bit of finding the legal angle as a bit of a needle in a haystack. Another thing that I'm very interested in is using actually financial markets. So without getting into too much detail, but utilities in many contexts are required to use competitive procurement. So some of the questions talk about PPAs where the utilities, they don't build the transmission, I'm sorry, they don't build the new power plant. They run an auction process and have third parties build new power plants or virtual power plants as well actually can participate in these. They use competitive procurement when they buy a fleet of trucks, for example, and when they buy natural gas, they use competitive procurement when they issue debt. So basically the idea is to, going back to this idea that the regulation is a surrogate for competition, you can basically cut and paste the financial model or the financial market model that they used to issue debt, use that for the equity, and we think that would affect about a 10% reduction in customer rates just right off the bat.

(00:44:08):

But more importantly, it takes away that two for one deal and that powerful incentive to just constantly invest more, invest more. I'm not sure if I got all the different mechanisms, but interestingly it is very gratifying to me to see different people, public figures start to notice this issue. Richie Torres in New York has talked about of all things rate of return and the rates are too damn high in his social media accounts. And then the New York legislator, his name is Josh Riley and his utility Central Hudson Gas and Electric. And in California, when the utilities there filed their rate of return applications, a bunch of assembly members filed a letter to the state protest. So there's a lot of things that different people can do, but really it's just about recognizing like, Hey, this is a really bad model. They're taking advantage of us. Something needs to be done.

John Farrell (00:45:09):

I just want to take a minute to acknowledge all the terrific questions I've been getting. There are way more that I'm going to be able to get to here. So I've been trying to aggregate some of them, look for some common themes. I will follow up after this conversation and try to get answers to people who are looking for them or ask some of our panelists after the fact. Shelley, did you want to jump in? Because I had actually wanted to ask you a little bit more anyway about how we might solve some of that issue around the transmission planning process, but maybe you also had something else you wanted to address.

Shelley Welton (<u>00:45:38</u>):

Maybe I'll try to tackle both. I think Mark's list was terrific. I was just going to add a couple thoughts that I had. One is I feel like in a way we complain about the commissions we have, but we've intentionally crafted really weak commissions in lots of states, which is to say states have really hollowed out their public utility commissions, commissions, commissioners that I talk to frequently talk about how hard it is to hire good staff and keep good staff when they can get hired out to get utility salaries. I think a part of the answer here is if you want the state to work, you have to build the state that can work. And so capacity at regulatory commissions is one thing that I've heard a lot of people say could potentially make a difference. If you have the staff to scrutinize these filings more carefully, you're going to get more questions asked of the utility.

(00:46:35):

Along those same lines, I think one of the other big areas that a lot of people are pushing for that I think is important is just a lot more transparency. John, you were talking about how you couldn't even, or maybe it was Mark before our call, talking about how they weren't even disclosing what rates were likely to be under this acquisition. If people that are sitting in commissions cannot get their hands on the data they need to make good arguments about rate of return. It's a real challenge to challenging utilities. And I think there's a fair argument that very little of their data should be confidential given that they are essentially, their public utility is working in the public interest and we are paying all of the money that they're recovering essentially. And so I think transparency and capacity are two big things I would put on that list as well. Okay. You also asked me about transmission planning, right? So

(00:47:25):

What do we do about transmission planning? This is a hard one, and I will say the federal regulators have had this on their radar that it's a challenge for a long time. So about 15 years ago, they put out an order that was, utilities really do better regional planning and they didn't, things have gotten worse. So last year they put out a new order, it's called Order 1920 since revised a little bit, 1920 A that said, no, we really mean it, do better planning. And so what they basically said is, utilities, you're required to get together in a region and do an actual proper long-term plan that says this is under these assumptions and these scenarios, these are the lines that make sense. You got to run it, you got to include a lot of different benefits in it. But what they haven't said is, and then you have to take that plan and use it as a blueprint for the lines that you have to build.

(<u>00:48:20</u>):

And so I think we're at this moment where you've seen, you've seen regulatory attention to the substantive challenges, but you haven't seen an underlying focus on breaking down these incumbent monopoly governance structures that, in my opinion, make it pretty likely that they're going to do better planning under this new order and still select lines that don't necessarily accord with whatever best practices look like coming out of this planning process. Now, the way that that could change is if they do this planning and states and advocates really pay a lot of attention and put a lot of pressure on both the federal and state regulators to not let utilities keep building expensive but dumb transmission lines, right? So I would say what we need is much more regulatory scrutiny of how planning happens, what comes out of these plans, and making sure that we're actually building the lines that are going to save money and help states accomplish their clean energy goals.

John Farrell (00:49:20):

Thanks so much, Shelley. I am going to, that raises a, is going to stick in my head for a while now. Expensive but dumb. I feel like you could run a whole campaign there against expensive but dumb things, whether you're doing rate case or rate of return or talking about transmission. I wanted to, so in the q and a, I've gotten quite a few asks about things like community choice aggregation about public power. One person, Seth Berry, who works with our power out in Maine, which was one of those statewide campaigns to change utility ownership, was interested in whether Green Mountain Power is doing some of the things that it's doing because they're a B Corp, a benefit corporation with a triple bottom line. So I guess I'm going to just open us to any of you that wants to try to tackle this, but some folks are essentially hearing this and saying, why should we still have private for-profit utilities at all? Maybe we should just do public power.

(00:50:20):

How do you wrestle with that? And I guess I'm also then going to ask as part of that, the devil's advocate question that Jeff St. John from Canary Media offered me, which is knowing how powerful the utilities are, and as someone who has tracked public power for a long time and seen a lot of those campaigns fail, where do you pick your battles here? I guess I'll ask this. Where do you pick your battles? Where do you think we should fight? Should public power be a part of that? Should more of our advocacy around climate be focused on the ownership of the system?

Mark Ellis (00:50:52):

I have thoughts on that, but I don't want to monopolize the conversation, so defer to others.

Shelley Welton (00:50:58):

I also have so many thoughts here. This is where I do a lot of my research, so I'm happy to jump in whenever. But Mark, if you want to start for it.

Mark Ellis (00:51:06):

Sure. So the first question around public ownership versus investor owned utilities. So earlier on I said, Hey, this isn't necessarily a plug for public ownership, but I actually worked for L-E-D-W-P very early in my career, so I have a lot of sympathy for public power. But my personal view on this is if you want to municipalize utility, basically that involves the public entity buying out the utility at that two for one price. And to me, that just sounds like if you want to do that, what happens is in order to recover that acquisition premium that you're paying to acquire them, you have to keep the rates basically where they are. So the whole point is, hey, I want to take control and I want to reduce rates. But basically what you have to do is you have, I'm getting rid of this utility because they're charging me too much.

(<u>00:52:01</u>):

And so to get rid of them, you actually have to pay them all their future overcharges upfront to make them go away. And that does two things. One, it makes the acquisition more expensive, but two, it actually rewards them for their bad behavior. And it's like, why would you want to do that? So to me, first if you want a municipality is the first thing you have to do is you have to get that rate of return fixed and then the market value, the takeover value is going to be much lower, and all of a sudden you can come in with that cheaper public capital and you can buy them out sort of at the actual rate based value. So to me, it's first fixed rate of return and then that opens the door if you want 'em in this. So that's one point on what you go on the path to municipalization and then to Jeff St. John's question. So as I mentioned, where do you pick your battles? I'm a former insider. I spent 20 plus years in this industry, and I just saw this issue drives everything. And what I like about it is the rate of return is like it's a fixable issue. The utility commissions are looking at this every year or every few years for every utility, but they're looking at it. Every commission is looking at rate of return at least once a year, except I think in Alabama.

(00:53:20):

So it's on people's radar screen. It's literally, it's a couple of numbers. This is a fixable problem. The finance behind it isn't complicated. The evidence is compelling. I hear different terms. It's the skeleton key, it's the going after their jugular, but it just has a lot of impact and it's, it's a very simple thing to say, that number is too high, lower it, and we know how to do that. So that's why I've picked that battle. A lot of other issues are much more complicated. I think the other thing about rate of return is utilities have no defense. Nobody's coming up and saying, oh, no, no, no. They use utilities. They deserve those profits. Other issues, they say like, no, we need the utilities to invest in the energy transition or keep reliability, all these different counter arguments, but on rate of return, they have no counter argument. It's just like, yeah, we're ripping customers off and we're laughing all the way to the bank, and they have really no defense. Nobody comes up and says, oh yeah, those utilities, they deserve every penny they get. So that's why I've taken the rate of return as sort of my personal battle. That's where I want to fight this fight.

John Farrell (<u>00:54:32</u>): Shelley?

Shelley Welton (00:54:33):

Yeah, so I mean, I've been writing about publicly owned power for, I don't know, maybe like a decade now. And what people always say to me is, but what about the Tennessee Valley Authority? They're so terrible. They're not doing anything good on climate. So public power can't be an answer. And I think the way that I've processed this in my own head is to realize public power is never going to get ahead of its politics. The goal of public power is to align the people that run the electricity system with public governance, elected officials. So I think public power can be a climate answer. If a community really wants more action on climate change than they're getting from their utility, that is not really the case in the Tennessee Valley. This is not an area of the country that's just clamoring valley wide for rapid climate action.

(00:55:24):

Some cities within TVA very much are, but they're misaligned with this public entity on the whole, right? So I guess I would say I think of public power as a potentially potent tool for climate, but it's never going to, I think single handedly change climate politics in a place. It's a tool for people where the politics are established. And then I think in addition to Mark's point about valuation, I think what's been really hard to see with public power battles is just they're really hard to wage against, over-resourced out personed utilities. So Boulder decided it wanted to do a public takeover and worked on it for 10 years and went through PUC proceedings and went through court proceedings and spent a lot of money and in the end

got some concessions from Excel in terms of the way that they're getting their power supplied, but walked away from public ownership as just a bridge too far.

(00:56:20):

But I actually think that having it as a threat and a weapon suggests that you might actually be able to get some concessions from your utility, even by wielding the possibility of public ownership. So I think having it on the table is really important. Whether it makes sense as the dominant strategy going forward, I'm less convinced about just because of current politics. I think this question about picking your battles is the question in some ways, right? We can't run away from the fact that it doesn't make sense for 50 different companies to build transmission and distribution lines in the same place. We regulate these monopolies because somebody has to do it right? And there's only a few different answers to how you get this done, right? Either they're publicly owned or you have some monopoly company that you give the ability to build, and in exchange you ask things from them.

(00:57:16):

And I think Mark's very well taken Point is we're not asking enough of these companies. So I think it's a given, it's a take. I think there's some spaces where you should just say, this is not a place where monopoly utilities belong. And I think that maybe local scale power is a place where we should fight monopoly ownership and suggest that actually we need to put some boundaries around what they own, and it makes sense to have community ownership outside of the utilities for transmission and distribution lines. I think the best we can do is try to cabin power and regulate it well, and that's why I come back to transparency and capacity a lot of times as the answer.

Bill McKibben (00:57:55):

Yeah, I think that Shelley's attention to politics here is really crucial. At third act, we worked some on that main referendum last year to take the utility public and just in the end, it was impossible because they were able to, I mean, they were making enough money that it was a smart return on investment to spend a huge amount of money to make sure that the thing didn't pass. And in our political system, that's often enough. There's no way to win these fights, any of them in a serious or quick way without changing the basic political understanding of where we are without changing the underlying politics. That's why we do things like Sunday to try and make those shifts. I will say though, that the technological picture is changing fast stuff that utilities are going to have to start figuring out how to deal. Look at what happened in Pakistan last year where individual Pakistanis with access to cheap solar, solar panels coming in from China, constructed the equivalent of half the country's national electric grid in about eight months, just putting solar panels on every flat space that they could find. That's put the utilities in the kind of predictable doom loop, especially since batteries are now flooding across that border too and being installed left and right.

(00:59:38):

I think that we need to make it clear that one way or another big technological change is coming and that smart utilities might want to get out ahead of that and figure that out some. And that's again, one of the reasons why we need on occasion, along with all the important day-to-day work, we need big moments that change public consciousness. If one thing comes out of Sunday and you can find out more at Sunday Earth, my hope was that it will never again refer to sun and wind and batteries as alternative energy, which is what we've been calling it for 35 years, because for a long time it was, but now it's the obvious, straightforward common sense way to power our lives as people around the world are proven. We've got to reach the point where people no longer think of this as the whole foods of energy, nice, but price and understand that it's become the best of energy. Cheap, available, bulk off the shelf ready to go if we can get utilities and regulators and politicians who have been captured by these industries out of the way. But that's our job, and fundamentally, it's a political job and there's no way around I think that political reckoning that we have to force.

John Farrell (01:01:04):

Thank you so much, Bill, for wrapping that up. I think it's so important, and I think it's emphasizing several of these comments in the conversation that, and I think I answered another question live too in the chat or in the q and a feature, that political mobilization around these and organizing is really unavoidable if we want to be successful, that any of the strategies that we talk about, there's no magic bullet. There's no secret formula to saying like, oh, if we only told people about this thing, they would all of a sudden pass it because all of it is defended by these incumbent utility companies who have a lot of money invested in keeping the system the way that it is. I wanted to wrap up then with, I'm going to share a few of the solutions that I talked about in the upcharge report that are many of them borrowed from folks like Shelley and Mark and Bill who have been working on this for so many years.

(01:01:54):

So I'm going to share screen again in order to share some of those opportunities. There we go. But just want to say thank you again. This conversation has been great, and I wish it was twice as long for all of the great questions that we've been getting. So as we've been hearing about the challenges, and we've talked about a couple of the key solutions, I wanted to just add a few other ones that come both from ILSRs resources, and as I said for many others that we talk about in the upcharge report. One of them is just, there are 18 different policies that ILSR tracks as part of its Community Power Scorecard that we publish every year. We rank every state and its progress on those different policies. It's everything from community solar to whether or not utilities have to have their resource plans approved by the public regulators. We're going to be adding more to this when we publish it next year, and we'll include more on things like rate of return, and I'm really intrigued to follow up on Shelley's conversation or a comment about whether we, well resource our regulators to effectively oversee these large utility corporations, but this is a helpful tool that we find that people can use to identify what are the policies that we should be thinking about that help us move forward energy democracy and utility accountability.

(<u>01:03:11</u>):

Bill referenced this virtual power plants or distributed power plants. I actually just did an interview with Shannon Anderson, who leads that work for Solely United Neighbors, which has done a lot of terrific work nationally on policy supporting local clean energy solutions. The idea here is that we aggregate all of the small things that we have and have them act like big things, and they have a model, both model legislation and a model tariff that if we do that political mobilization that we can work on enacting in different places to create these opportunities to have these local clean energy solutions work together and toline other utility provided ones that are either more expensive or involve dirty energy, we can curtail their excess rates of return. You've heard a lot about it. I just want to emphasize again, mark and I had this great conversation. The title of it was Five Tactics for Fighting Utility Rate Gouging.

(01:04:04):

If you want to learn more about Mark's work, that conversation gives you much more depth as well as it links out on the show page to many more of his resources. Also, I don't know if I have a link to it specifically that I'm going to cover on the air, but in the PDF here, that is shared, I know I also have a link to the specific conversation that I had with Shelley about the transmission planning process and how we can reform that. But a couple of people ask, how would you break up the monopoly? And we talked about one of those key strategies, which is maybe not breaking up the monopoly, but it's changing ownership and said, okay, well, what if we just went from private ownership to public ownership? Could we solve that problem? And I think Shelley articulated really well and really fits with my experience that it's a really hard fight to win.

(01:04:47):

This is not any smaller fight to win, but kind of also gets at the structural issue, which is could we have independent distribution system operators? Because the one place in which the utility remains a platform

monopoly across the country, even in places where we've restructured electricity markets to have maybe a retail choice, or maybe the utilities don't own the power plants, but they just own the poles and wires, is that they still have this conflict of interest between asset ownership, which is to say owning and building things as Mark has talked about, and the grid system in a way that would actually be the most efficient for consumers and have the best outcomes maybe by having more virtual PowerPoints. So one of the things that ILSR has talked about in that report and certainly borrows on ideas from others like John Wellinghoff, who's a former federal energy regulatory commissioner, is this idea of an independent system operator.

(01:05:36):

Could you actually split off the function of running the grid from the function of building the resources and could that then independent grid operator do a better job of making sure that we make the most cost-effective decisions about how to run the grid? Again, you need to mobilize politically for this. This is not something utilities would just be like, sure, why not take away that function from us? But it would be helping to have a conversation about the real core issue here, which is that issue of conflict of interest, which is that issue of utilities acting as gatekeepers to the climate solutions that we want. Just want to emphasize, there's a lot of these resources or available on the ILSR Energy Democracy Initiative webpage where we talk about the issues of local ownership, democratic authority, the human scale of our energy economy. We provide a lot of these tools.

(01:06:23):

We have our podcast, local Energy Rules, we have this report, upcharge, this conversation will be recorded and we'll be posted there if you want to be able to reference it, and we'll put in a whole bunch of links to resources that are on the topics that we talked about. So if you ask the question about something and we're hoping to hear more about it, look on that recording page in a couple of weeks, we'll do our best to make sure that we provide some of those resources. Hopefully an answer to some of those questions that you have. I'm not going to do it. Now. There's about 15 more pages in this PDF, and I just want to let you know it includes more stories about how utilities exercise their authority, as well as more ways that you can fight monopoly power. I didn't want to cover them all live because I wanted more time with our panelists, but just wanted you to know that when that recording becomes available, we'll send out the slides and it will include all of those additional resources that we didn't have time to get to today. And with that, I just want to thank our panelists. Yeah, please. Yep.

Mark Ellis (<u>01:07:19</u>):

One last thing. There are a lot of questions about rate of return if I'm happy to follow up on them. If you want to follow up, find me on LinkedIn and just connect with me. Send me your question. We can take it offline, but this is my thing. I'm the rate return guy, so if you have questions about that, just reach out to me. I'm always happy to answer them. A lot of them, I've been working on these issues, so there are answers to these questions. Just reach out to me, find me on LinkedIn, we can connect.

John Farrell (01:07:49):

Thanks, mark. Much appreciated, and thank you also to Shelley and to Bill for joining me today for all the work that you're doing. It's really inspirational. I love sharing about the stuff, the ideas that you come up with, the way that you approach these problems. I have been on a learning journey through my almost 20 years of doing this, and it is just incredible the knowledge that is out there and the work that everybody is putting into this. If you are interested in learning, again, the recording is out. Check out All Star's website if you want to know about how to participate in the mobilization that will make these solutions successful. Look up Sunday Earth. Thank you to all of you again, appreciate you and have a wonderful afternoon. Take care,

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Bill McKibben (<u>01:08:30</u>):

John. Thank you for your leadership. What a pleasure to get to do this.

John Farrell (<u>01:08:35</u>):

Thank you so much, bill. Thank you. Thanks again, Shelley. Thanks, mark. Take care.