You Might Be Right – Do we have enough energy to power the country? – Transcript
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Reagan Farr: We've fallen into this trap of trying to pick, "Do we like these red electrons that are all generated from coal and natural gas, or do we like these blue electrons that are wind and solar?" And that's a really bad way to approach this policy. And we should really just say, "We want affordable, reliable, low-carbon electrons."

Marianne Wanamaker: Welcome to "You Might Be Right," a place for civil conversations about tough topics, brought to you by the Baker School of Public Policy and Public Affairs at the University of Tennessee, with funding support from members of our Producers Circle. To learn more about how you can support our work, visit youmightberight.org.

Strong economic growth and the rise of new computing technologies are stressing the country's aging power grid, and creating new challenges for policymakers. And the current presidential administration has sought to eliminate the main climate policies inherited from the previous one.

In this episode, our hosts, former Tennessee Governors Bill Bredesen and Bill Haslam, and their guests, discuss the country's accelerating energy demands. Will the expansion of energy production in the U.S. be clean, or is the de-carbonization agenda a thing of the past?

Bill Haslam: Welcome back, Phil. We're trying something different this time. We're actually not in the same place doing this podcast. I feel like I've lost my security blanket of having a smarter person sitting next to me.

Phil Bredesen: Well, I feel the same way, while we're complimenting each other here. But we did the podcast with Al Gore and Jeff Lyash, and I thought it was really interesting, because you had two people who were very knowledgeable but had very different kinds of responsibilities. I mean, Al Gore was a true believer and taking no prisoners, I guess, on the subject of that. And Jeff Lyash was a believer in climate change, but also had the job of keeping electricity flowing at reasonable rates to millions of people. And I think we've got a nice compliment to that today, in the two guests that we have, to continue this discussion of energy.

Bill Haslam: In today's political world, the discussions around climate change have kind of gone out of style, if you will, partly due to change in administration, and partly due to the fact that the primary issue in front of us is energy demand, that right now it's hard to say how we're going to meet that demand due to the increased usage, which I hope our guests get into. But the primary issues still remain, of building a secure way to provide energy, affordable, and yet takes into account the long-term environmental impact of what we're doing.

Phil Bredesen: And I think, unfortunately, this is an area which has gotten, it certainly is not new news, but it's gotten so polarized, that I think both sides of the issue are just not applying common

sense to it. I mean, Democrats want zero carbon in 10 years or something, which is not – no one can describe a path to that happening. And there are certainly Republicans who want just increased reliance on coal and the heck with renewables, and that's never going to happen as well. And this is an area where I hope the kind of guests that we have can help to put this just in a little different context.

Bill Haslam: Let's see what we can learn.

Phil Bredesen: All right.

Well, Bill, I'd like to introduce one of our guests, Reagan Farr. Reagan is the co-founder and the president and the CEO of Silicon Ranch, which is now one of the nation's largest independent power producers. And before that, he was in my administration as governor, as the commissioner of revenue from 2006 to 2011. Full disclosure, Silicon Ranch, I'm one of the co-founders of it with Reagan, and so we have a long business relationship, as well as our friendship.

Bill Haslam: Thanks. Our other guest is Shameek Konar. Shameek is a partner and head of energy for Ara Partners. It's a firm which optimizes and decarbonizes conventional energy assets. Prior to that, in terms of full disclosure, while we're on that, he was the CEO of Pilot Company that my family was involved in for years, and held senior leadership roles at Castleton Commodities, Goldman Sachs, and Constellation Energy, overseeing a global portfolio of energy assets and major commodity acquisitions. He has his Ph.D. in economics from Vanderbilt, serves on the advisory board at the business school at the University of Tennessee, and on the board of the Conservation Fund. And he teaches courses on climate change, and energy, and merger and acquisitions at the University of Tennessee.

Gentlemen, and actually further full disclosure, I've invested with Reagan's Silicon Ranch company as well. So as you can see, we have a tangled web here. But despite that, I can assure you our guests are both people who know a lot about our topic and I'm really excited to have the conversation today.

Phil Bredesen: Good. I'd like to just start out, and Reagan, let me start with you, but I'd love to hear from both of you. Do you think most Americans realize today about the state of what energy demand is going to be, going forward in the future? Is that something that there's some broad understanding among policyholders and Americans about, or not?

Reagan Farr: Great question, and I don't believe the general public fully understands the energy revolution that's going on right now, in terms of increased power demand. We're coming out of multiple decades where any growth in demand happened at one, one and a half percent a year. And most of that was offset by increases of efficiencies, as we went to LED bulbs and more efficient HVAC units. So taking a huge base of power generation, and starting to grow it now at 3%, 4% in some regions, all the way up to 6% annually, is a really revolutionary change. And we've not done it in several decades, so it's going to be a new environment that we're operating in going forward.

Bill Haslam: And Reagan or Shameek, what's happened to cause that rapid increase of demand?

Shameek Konar: Yeah, Bill, just as I think about this, there's three buckets that the demand comes from. One is basically from what's happening with AI, simple numbers, the current Google Search, if you type in a search in Google and you get the AI blurb at the top, it consumes about 10 to 12 times the amount of energy that the older Google Search used to consume. So just think about the number of Google searches that happen, and how much more energy is being consumed in putting the output to people. And it's something people don't have as much context on, right? Because they think, "Oh, here's a new little thing at Google, and it shouldn't make that much of a difference to the energy grid," but it does.

The second thing is EVs, and this is actually one of my favorite stories, and Governor Bredesen, you asked this question in the beginning, is do people have a feel. I believe, like Reagan said, people have a feel that energy demand is going up, but here's a really great contextual point which always shocks me. An average U.S. home uses 1.2 kilowatt load across the year, so 1.2 kilowatt average load across the year. One DC fast charger, a charger that can charge your car in 40 minutes is 350 kilowatts. So think about one charger that you're expecting to have available at your office so that you can get your car charged, is the equivalent to 300 U.S. homes. That is the scale that people don't, I think, grasp when they think of changing energy demand. So the second point is obviously increased EV is creating a lot of changes in terms of energy demand, especially electricity demand.

The third area, GDP growth and energy growth are probably two of the best correlations you can find in macroeconomic data. If you go and look at macroeconomic data globally, you'll see high GDP countries have high energy consumption. So as the world, and as the U.S., and this is tagging onto what Reagan said, we used to get a lot of benefit from efficiency, but we have kind of killed a lot of the low-hanging fruit on the efficiency side. So now we're coming out on the other side, as GDP grows, we're seeing demand grow.

And the final point is that, if we are going to re-industrialize America and bring more manufacturing back into the country, the thing you need the most for that is energy. So it's hard to get away from it, that was a long answer, these are four points, but I think the scale and scope of it is often lost on people, even though the general concept is accepted.

Phil Bredesen: If you were stepping back from this and saying, "Well, okay, I'm now a policymaker, let's say, and I need to focus on what are the critical path items we have to deal with to get to that? Is it generation? Is it the grid? If it's generation, how much of it's renewables?" What ought a serious person be looking at as a way to begin addressing this issue?

Reagan Farr: I think we focused a lot, and it has been a topic of a lot of political discussions back and forth, about where do we get our electrons? Are they electrons from fossil plants, are they electrons from solar plants, from nuclear plants? And I think we have not focused enough on the fact that we need to get those electrons where they're consumed, at the time that they're needed. So we spend a whole lot of time debating about the source of our electrons, not enough time talking about how are we building the infrastructure to get those electrons where we need them?

Bill Haslam: Hey Reagan, let me stop you a second. For history majors like me, when we talk about electrons, what are we talking about?

Reagan Farr: So basically, electricity. The electricity that we put on the grid, we produce it – historically, the grid was designed with large, centrally powered power plants. A few of them, that

the power would be generated, moved across high voltage power lines to all of our cities. And most of the generation was central, it was fossil based, and it was a mix of base load coal type plants, and gas generation with some hydro.

And as the grid has developed, we are moving toward a more distributed grid, that has a variety of generation sources. A lot of new wind, a lot of solar, and it is generated predictably, but also it's intermittent. So as we go from large central power plants to a more distributed grid, we both need to think about, are we producing enough electrons, but are we producing them in the regions, and are we able to get them where we need them? Because the power plants of today that we're building, are not really next to the loads.

Bill Haslam: Let me ask this. One of the questions we're talking about is, or one of the things you talked about is, where's the demand? How do you load that onto the grid? Right now, what's our current breakdown of energy in terms of renewables, fossil fuel, et cetera? Do either of you have a breakdown of where it currently comes from?

Shameek Konar: Yeah, Bill, right now it's about 60% of it comes out of fossil fuel generation. I'm using round numbers, about 18% comes from nuclear, and about 22% comes from renewables. And when I say renewables, as Reagan was talking about, it's solar, it's wind, it's hydroelectric power, biomass generation and so on. So still predominantly fossil fuels.

Reagan Farr: And Shameek, maybe an interesting follow-on to that is, but 96% of the generation that we added last year was either wind or solar. So it's from a small base, but it's the part of the base that's growing most quickly.

Phil Bredesen: I guess a part of it has to do with– I guess the question is, do solar and wind, are they easier to put in place than more conventional kinds of generation? Is that the reason for that?

Reagan Farr: Yes. Solar is very modular, it can be built in almost any location, you're not depending on other infrastructure. We always talk – gas plants are great, but you also have to get the gas to the plant. Coal, you've got to get coal to the coal-fired power plant. So solar, it can be distributed, there's sunlight and solar resource all over the U.S., and it's by far the quickest generation source that you can bring onto the grid in today's environment.

Bill Haslam: So how much of the increased demand can real – and Reagan, you talked about where the increase is coming from – but how much of the increased demand can realistically be met by renewables?

Reagan Farr: I'll let Shameek, and then I can jump in.

Shameek Konar: Just like with everything, there are pluses and minuses, as Reagan accurately pointed out. The great thing about solar is that it's much easier to put in place. One of the challenges you run into with solar and with wind, is you need about four to five times as much generation when you include solar plus batteries, to replace a fossil fuel megawatt. So Bill, to your question, what happens, is if you are looking at the numbers that we're talking about now, where the U.S. power demand could grow between 2 to 4% a year, suddenly you have to build a lot more solar and a lot more wind, as opposed to the amount of fossil you'd have to build. So while it's easier, it's modular, you can put it in a lot quicker, but you also got to put in a lot more of it. And

that's kind of where you run into challenges, because when we think about growing U.S. energy demand, as Reagan pointed out, over 90% of recent builds have been all renewables. We have to keep doing that, but with the growth in demand, replacing all of the fossil fuel with renewables and meeting the new growth becomes a very big task.

Phil Bredesen: There's been a big change in the renewable industry this year, in that the government has strongly supported the development of some kinds of renewables, particularly wind and solar, through various kinds of tax incentives, which are now dramatically changing, and essentially going away over a period of time. Is that realistic? Is that going to stop the growth in solar? Or are the economics so compelling that in the end doesn't make a difference?

Reagan Farr: My view, as a CEO of a company that develops, builds, owns and operates renewable solar facilities, was the tax credits play a meaningful role in helping keep energy prices low for consumers. Solar can be competitive, and there will still be solar procurement without tax credits, but I think the tax credits did a couple of things, aren't totally obvious to the general public. One is, because solar and renewables have been the predominant new generation form that we built in this country over the past several years, they have funded modernization of the grid. Every time I build a project, I not only pay for my project and that infrastructure, I pay for improvements to the utility's infrastructure, so that they can manage that resource, make sure that they have protection. So the renewable industry has been funding a lot of grid improvements, and that's been subsidized. Often the cost of this tens, sometimes hundreds of millions of dollars of payments you're making to the utility for grid improvements, that's kind of offset by the fact you get support in the form of a tax credit.

I feel like the tax code, we don't really have a national energy policy in the U.S. We chose, to the extent we had a national energy policy, to incent things through the tax code. So one thing, we were funding great improvements with the investment tax credit.

I think the other thing we've done, if you were to go buy a solar module in China, you could buy that solar module for about eight or nine cents a watt. We've put all types of tariffs on solar modules, because we wanted to incent solar module production in the U.S. So if you buy a solar module in the U.S., whether it comes from China or Asia, or from an American manufacturer, you're paying more than three times what it actually costs without all of those embedded tariffs and taxes on those. So I feel like we've also said, we want to provide support so that we can pay what we need to pay to be able to buy American manufactured products. And the tax code has done that. It's really given us the cushion to be able to pay 30 cents a watt when the rest of the world's paying eight, nine or 10 cents a watt.

So I think we can manage whatever the tax credit scheme is, but my bigger concern is, these are huge capital projects, and it's important that capital providers have clarity over a period of years. And these projects take a long time to develop, so putting solar aside, because today nuclear is the darling of the administration, it's what everybody's talking about, and they're counting on this tax credit scheme that is out there to support nuclear power. As a capital provider looking at the US energy market, I'm going to have a really hard time saying, "I want to put my capital to work, so that private industry can help develop these very expensive nuclear plants," because I'm not going to be able to count on that tax credit structure being there eight years from now, when my very first nuclear plan is finally able to come online, if everything goes according to plan.

So I think you can argue whether the tax credits are good policy or bad policy, I would say they do help keep energy prices lower for the ultimate consumer, but I can say it's a bad policy to politicize and change the tax credit structure, every time a new administration or a new party comes into power, because you're going to make all capital more expensive, because of the risk of, you can't really make capital decisions thinking that there's going to be consistent policy across administrations, and that's bad for the whole industry.

Bill Haslam: It feels like to me, we're living in a devil's triangle, if you will, of three big issues. Number one, regardless of where you stand on the political spectrum, it's hard to not recognize that we have significant climate change going on. Okay, so that's a reality, I think most people would agree with.

Secondly, we have increased energy demand. Shameek kind of pointed out three things, the increased data demands, or desire for data in the population, the growth of the economy drives increased demand. If we electrify how we move our vehicles, that's another thing that's pushing that. And then the third thing you have within all that, is a desire for people to, they're saying, "Hey, don't blow my budget on this, whether it's at the gas pump or whether I'm paying for my utility bill, I'm already feeling the strains of the economy." So within all that, we don't really, as Reagan said, we don't have an energy policy. Help us think through, what's a path forward for a country that, as Reagan said, doesn't really have an energy policy?

Shameek Konar: Reagan, if I may, I would start with, you laid out the three challenges, right? One is basically energy security, the other is cost of energy, and the third is climate change. The challenge that we face is the first two of those, energy security and cost of energy is immediate, right? It affects me tomorrow, it affects me day after tomorrow, it affects me next year. When you talk about climate change, it's a gradual change which is happening over a long period of time. So I think it's very difficult to get people focused on climate change, till the consequences become dire enough, when you're competing against reliability and you're competing against cost.

So I personally believe that we need a national policy. One of the biggest challenges we have in the U.S., is we have over 3000 utilities. They're governed by 50 public utility commissions, and I'm sure Reagan lives this every day, and every state you go to has a different set of rules and a different set of priorities. It's very difficult to deal with a problem that you foresee in the next 10, 20 years. It's like the national debt, right? We talk about the national debt every time, but it's always somebody else's problem. I feel climate change kind of gets stuck in that, and we actually need centralized policy to coordinate this and make it a priority, that's the only way we're going to deal with it. Otherwise, reliability and cost will always trump something that's 10 or 20 or 30 years out.

Reagan Farr: Shameek, Governor Haslam, so I've thought about this a lot and I always think, if you were starting with a blank sheet of paper and designing a grid and a generation system today, what would your goals and objectives be? And I think you would want a reliable, affordable, resilient, and smart grid. And you would really focus on those factors, and not try to pick and choose – and low-carbon, I guess that would be also a goal. And I feel you should then put policies in place to encourage that outcome. One reason I think it's smart to have some type of tax credit to support either grid build out or generation, is because as a country, affordable, reliable electrons help us – the private sector figures out how to use those in very productive ways. So we need to, as a country, just say, "Our goal is, we want plentiful, affordable, low-carbon electrons. How do we get there and

what do we need to do?" And I think that should be the start, instead of saying, "What industry do I want to really line up and get behind?"
And I think we've fallen into this trap of trying to pick, "Do we like these red electrons that are all generated from coal and natural gas, or do we like these blue electrons that are wind and solar?" And that's a really bad way to approach this policy, and we should really just say, "We want affordable, reliable, low-carbon electrons, and how can we put some things in place to help private capital solve this need?"

Phil Bredesen: Well, when I took my physics courses, they never mentioned the red and blue electrons–

Reagan Farr: The red and blue electrons.

Phil Bredesen: I missed out on that part.

One of the things, obviously as does Bill, I mean, talked to a lot of people about energy and energy policy and so on. And one of the things, and you both have sort of mentioned it in a way already, but so much of the focus is on the generation, and yet so much of the impediment to moving forward seems to be in the grid itself, for the reasons that you've both outlined. Are there any specific policies, or things that could be done to put more focus on– it's a very balkanized grid. I mean it's all these little individual grids, and they're hooked up and you worry about, is it a technically sophisticated grid?

In a way, we've been through this once before in this country, probably in a lot of things. I mean, when roads were originally built, a lot of them were private roads, and there were tolls on them, and I lived off Hillsboro Pike and that used to be a toll road, as I understand it. And we finally had to come together into some more sensible way of constructing an infrastructure. Are we ready for that to happen in some way with the electric grid, or is that premature?

Shameek Konar: I don't think it's premature, Governor Bredesen. I think the generation problem is a problem that's a lot more solvable right now, than where we are with the grid. If we move to a much lower carbon generation stack in the U.S., the estimates from DOE are we have to double the size of our grid. Our grid today, high-voltage transmission is over 600,000 miles, we've got to build another 600 plus thousand miles. And I believe in 2022 we built about 380 miles and 2023 we built 55 miles. So we are lagging on the grid side of it substantially, compared to where we are on the generation side. So I do think it's something that needs to be solved.

The two challenges with grids in the U.S., because when you look at a country like China, they've made a lot of progress because it's a control economy. In the U.S., it's private ownership of land and you have to get right away or you've got to establish eminent domain, both of which can be challenged in the courts, and it takes a lot of time. And our current policy framework, and as you said, we have a balkanized grid which is managed by a number of different entities. So there isn't centralized grid planning or prioritization towards developing the grid.

The other challenge you run into is, to Reagan's point, these are long-term projects that can often take, it's like building a pipeline, just to get the right of way it may take me seven, eight, nine, 10 years, then I have to build the project. So I need capital and I need return of capital. So I need stability of policy that focuses on redeveloping the U.S. grid. And I need these 50 public utility

commissions to be aligned to say that, "Look, when you hit the border of Tennessee and Kentucky, we are aligned on what we are doing, and we're not going to have different policy."
So again, for me, this is why I had mentioned before, these issues need a nationalized policy that is governed by FERC, and gives private capital the reliability to do it. Otherwise you're back to the utility environment, where each utility is going to service its own grid and you're not going to kind of restructure the grid to take more solar, to take more wind, and to take this distributed generation model.

Bill Haslam: So to sum it up for us, each of you, you each get asked to address a joint session of Congress. Give me two or three points that you would make, like I said, they've asked you to come together to talk to all the Congress pulled together. What are two or three points that each of you would want to make?

Reagan Farr: Shameek, I'll go first. I would start out with what we all agree on, and that is access to affordable, reliable power is table stakes for what we want to achieve as a country. And the digitalization of everything, not just AI, but our manufacturing processes, our lives, our data. We're going to need to build infrastructure to help us compete in this new digital global economy, that is going to be driven a lot by AI. And it is a huge industrial project, it's going to create jobs, it's an incredible opportunity. So I think we can all agree we want the U.S. to be an energy dominant player.

Then I would say, I would call on Eisenhower and say, "There was a time when the federal government got involved and said, 'We will benefit greatly as a country by having roads that connect the east coast to the west coast, and the north to the south.'" And I'm going to step in and provide that direction from a federal level. There's still going to be a lot of roads built by the states, and that's going to be important, but it's more important that we have an interstate system, and we really are at an inflection point where we need to build the interstate system for our power grid. And I think both parties should come together around enabling energy dominance through this infrastructure, and get out of worrying quite so much about where the electrons have come from, because that really is the easiest part of this whole equation.

Bill Haslam: Shameek?

Shameek Konar: I agree with the points Reagan made, I might add a couple of quick things to it. One, is I think it's important – in my experience, people do not grasp the magnitude of the problem. And I think it would be important if I were addressing a joint session of Congress, just to give them the context, one charger, 300 homes, one Google search, 10 times the amount of electricity, and what that means. Because I think just to meet our growing energy demand, in the next 10 years we have to grow our electricity generation by 37%. And that is a very, very large number compared to what we've done historically. And I think the scope of the problem is something that creates a level playing field for it to be a bipartisan solution, because I think there is a lot of challenge about what is the reality of the world we live in? And I think getting both sides on the same page would be really important.

And then following it up with what Reagan said, we do need a national energy policy on this. We do need to prioritize the state organization saying that, "Look, this is something we need to do for the country, and you will put it at the top of your list." Without that, I think it's going to be very difficult to coordinate across the 50 states, to do what we need to do.

And the third thing, which ends up being, from my perspective, a little difficult for both political parties, is that it is going to cost money and who's going to pay for it? If you have to restructure the grid this much, you're talking about trillions of dollars of investment in generation and in the grid. And if you want private capital to do it, the returns need to stand, so you need stable policy. But in some cases, like new nuclear that we talked about, the costs are so high that if you actually pass that on to consumers, you would more than double electricity prices in the U.S. As it is over the last five years, we've almost seen a 50% increase in retail electricity prices. So there is that challenge which either comes through tax incentives, or some sort of government programs that allow you to work your way down the cost curve, which has happened very well in solar and wind, where you can socialize some of this. Otherwise it becomes a regressive tax problem, and I don't think– if you don't solve that, this is not going to go very far.

Phil Bredesen: This has been a great discussion, and thank you. And I'd like to, before we end, pass on one further question, which we've ask almost all of our guests. The name of this podcast is "You Might Be Right," and it takes its name from one of Senator Baker's famous quotes about listening and keeping an open mind, because I think as he said, "Sometimes the other person might be right."

Kind of like to ask you, just in your own personal experiences, is whether it be in this field or anywhere, is there some occasion you could talk with the people about, where some opinion you had, or belief that you had about how things ought to be, was changed by speaking to somebody who had an opposing opinion, maybe even one that conflicted very deeply with yours? Have you ever changed your mind based on somebody else's thoughts?

Shameek Konar: I'm happy to go first, my wife makes me change my mind every day based on her thoughts. Now if she listens to this podcast, she's going to actually kill me. But joking aside, actually, I've thought quite deeply about this climate change issue. And I definitely used to be very much in the camp of, we have to have zero carbon electrons if we are able to do something. But I had been challenged a lot by people saying that the world today consumes 230 million barrels a day of oil equivalent, when I add oil, natural gas and coal. And how the heck are you going to replace that over the next five years, or the next 10 years? And I think the answer is, you can't replace it, so you got to try and clean that up to mitigate the impact of climate change, while you're building the infrastructure of the future.

And I was pretty passionate about saying that, "Look, we've got to go to zero carbon, everything." But I think the reality doesn't work out. And it is something that I've definitely changed my perspective on now, saying that, "Look, both of these things need to grow together. That final solution is going to be a combination of a number of things, but we've got to focus on what's doable today, otherwise we're not going to get anywhere."

Bill Haslam: Reagan?

Reagan Farr: Governor, I've thought about this question deeply too, because I'm a big fan of the podcast and I knew it was coming. And I think that applying that to the broader discussion about this energy transition that we're in, I get to interface with all of these hyperscalers as part of our dialogue around planning, to help power their data centers. And we have these agreements where we sit down and they tell us how we need to think about investing capital, so that we can be there

for them from an energy perspective. And I was getting very frustrated, because every time we'd have a meeting, at our very next meeting, the whole chessboard was changed. And I was like, "Why do we have this agreement, if every time we get together things are totally different?" And they said, "Reagan, you don't understand how quickly the reality of this AI development is changing." They're like, "As soon as we have an internal plan, it's stale by the time we write it down on paper."

And their feedback has been, you can't make decisions based on yesterday's knowledge or static data, in such a dynamic changing space. And so now I approach all of these discussions about the future of energy saying, "Not only am I not certain that I'm right, I pretty much think I'm wrong." And we all need to be open minded to the fact that new developments are happening every day, and we don't want to argue over yesterday's debate with yesterday's knowledge. We really all have to come together saying, "Both of us could be wrong, either of us could be right, but we have to be willing to adapt to a new chessboard." And I think that would solve a lot, and it is how we need to approach this dynamic energy transition that we're going through.

Phil Bredesen: Thank you both. Great discussion, very good.

Bill Haslam: You all have been , you all brought a wealth of knowledge. I've learned a lot on here and I hope our listeners do as well. Thank you both for joining us, we really appreciate it.

Reagan Farr: Thank you both.

Shameek Konar: Thank you.

Bill Haslam: Thanks.

Phil Bredesen: So that was an interesting discussion. Obviously it's two people with an awful lot of knowledge about on the ground realities. What did you take away from it?

Bill Haslam: When you think about the energy demand growing almost 40%. So we have this huge issue of being able to, like I said, find the electrons from somewhere, number one, and then a grid that can handle it, all combined with what most people would agree is this growing, long-term concern about climate change. I do think both of them made a great point, we don't have a national energy policy, it's one of the things that concerns me about our current political environment. We're going from guardrail to guardrail on big issues like this, rather than a long-term plan. And democracy is wonderful, I'll take it over the alternatives, but within that we have to have a way to have a long-term, consistent policy.

Phil Bredesen: One of the things that stood out to me was, I think both of them made the point, that we need to stop talking so much about where the electricity is generated, exactly how, and exactly how much of it is renewable and how much is nuclear. And really what deserves a little more focus is getting the infrastructure in place in the form of the grid that you have, because the means of generation and where it happens is going to evolve in time, and nobody knows what it's going to look like 10 years from now. And the interesting to me about that, is I think that if you take it out of the climate change discussion, and the analogy I think was Reagan that made it, with Eisenhower and the interstate system, that might be something I guess I'd ask you, that Republicans and Democrats could kind of come together on. I mean, during the time I was governor, we got several investments in solar in Tennessee, and it got done, because we said, "I

don't care if you believe about climate change or not, that's not what this is about." There's changes taking place in the industry, we want to have those jobs in Tennessee, and could get broad buy into that notion. And maybe that's a way forward for us.

Bill Haslam: I think so, it all starts with acknowledging you have a problem, and we have a problem around growing demand, a grid that won't meet it, and then longer term consequences. So I actually think that the interstate model is a good one, that we could build off from here.

Phil Bredesen: When Eisenhower did that, it wasn't just a financial program of, here's a bunch of grants to states and give me your plans. I mean, it was a well thought out national plan for transportation infrastructure in America. He didn't say, "Tennessee, here's some grants for roads, and you decide where to build them and so on." And we've kind of lost the ability to do that kind of planning and putting things forth now. But if we could get back to it, I mean this could be a way of doing it.

Bill Haslam: Thanks. This was a great discussion, and I think, like you said, this could be a path back to doing it. It starts with saying, "We have a big long-term issue, let's at least try to put a plan together to solve the problem."

Phil Bredesen: Right, it's about energy and the cost of energy, and security for the country.

Marianne Wanamaker: Thanks for listening to "You Might Be Right." Be sure to follow on Apple Podcasts, Spotify, or wherever you listen to your favorite shows. And please help spread the word by sharing, rating and reviewing the show.

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