Houston and Nature 02: The Green Wealth That’s in the Texas Prairie, Transcript

Nivien Saleh

You know that Houston is the energy capital of the United States, and probably that it is a national center of greenhouse gas emissions.

Houston contributes to global warming, sure. But our city also has forward-looking thinkers who are coming up with ways to really reduce our carbon footprint. You didn’t know that, did you?

One such innovator is environmental lawyer Jim Blackburn. Born in Louisiana, he arrived in Houston in the early 1970s, and from here he has worked, warned, and educated on behalf of our natural habitats.

Jim Blackburn is in a working group at the Baker Institute of Rice University that seeks to bring the circular economy and carbon sequestration to Texas prairies, big time. Today he tells us what these new ideas can do for our future.

I’m Nivien Saleh, with Houston and Nature, welcome Jim.

Jim Blackburn
Thank you.

Nivien Saleh
What do you see are the most important threats to our environment in Houston and in Texas?

Jim Blackburn
Houston is sort of this huge mass that at least until recently has been expanding and expanding and expanding. And we covered things with concrete and we flood ourselves. And in the process we've destroyed a lot of very good habitat for the natural system, a lot of wetlands to the west of town in the Katy Prairie, a lot of our floodplain areas that have excellent habitat for various types of species; many of those areas should not have been developed. But they were. I think the threat of the continued expansion is one thing.

Our industries are not regulated as seriously as they are in other states. They can oftentimes not have to comply as stringently. Sometimes they get away with more than they should, but by far and away the biggest threat to the environment is coming from our changing climate.

In the long term you got sea level rise with the potential of wiping out coastal wetlands; the weather phenomena that we're experiencing, these severe storms. If that were to flood the Houston ship

channel, it would cause an eruption of hazardous materials back into the environment. That would be probably the worst environmental disaster in United States history. So, the implications of climate change are just huge and we have to begin to address that.

Nivien Saleh
Yeah.

From Linear to Circular Economy

Jim Blackburn
That's part of the circular economy. It's also part of just what we have to do as a civilization to protect ourselves.

Nivien Saleh
Circular economy. That is a partial response that you have to these challenges. What is the circular economy?

Jim Blackburn
I think in many cases the environmental community has often seen economy and economic development as the threat rather than as the ally. I think we have missed an opportunity as environmentalists to talk about how a better economic system could emerge in the future. So if we had an economy that was in sync with nature and with natural systems, that it would be a much more sustainable system, one that didn't cause nearly the disruptions that we now are experiencing with climate change.

So this circular economy is a contrast to our current way of thinking about economy and consumption. If you think about the way things work kind of right now, resources are mined. They're brought up, they are produced, they're packaged to, ships. Take aluminum. Bauxite is is mined in South America. It's loaded onto ships that come over from South American coast to the Gulf Coast of Texas, for example, that bauxite is unloaded; the bauxite is manufactured into alumina and then into aluminum.

It's got to get rolled out in sheets and then it's taken to processing plants. The plants make it into aluminum cans. And at least until in the not too distant past, most of those cans were just thrown away.

With plastics, we're making taking natural gas or we're taking naphtha from a refinery and using that as a feedstock to make ethylene. And then from that to make polyethylene, propylene, polypropylene, all the various types of plastics, which they turn into pellets, those pellets go and are formulated into products.

The products are used and then thrown away. That's linear. That's going from A to B to C to D to disposal. It's just a straight line. And our thinking has been: We need more of that and more of that and more of that.

Jim Blackburn

So we use more dump more, use more, waste dispose more. That is the process of the linear economy. The circular economy takes its clue from nature. Nature is an economy of cycles. There is the carbon cycle. There is the hydrologic cycle. We have a nitrogen cycle. We have a phosphorus cycle.

And our problems that we've run into has been in failure to understand and respect those cycles. We develop floodplains. Well, that's where the flood waters want to run as part of the hydrologic cycle. Gravity takes them there. If we had respected that and set back, the damages that Houston exhibits from flooding would have been much less.

Similarly with rainfall and runoff. If we had left the natural cycle such that when the rainfall hit the soil, the soil could take the water down into the subsurface. Your wetlands could hold the water and allow it to seep into the ground.

With carbon, there's a natural economy of carbon where carbon dioxide is produced by respiration and by decay. That carbon dioxide goes into the atmosphere, which has a carbon dioxide background content, and then plants through photosynthesis, take the carbon dioxide, produce oxygen and produce carbohydrates, sugars, which then become either the wood of the plant or go down into the root system and becomes the foodstuff for various microorganisms.

And then there's decay of the leaves, there's eating of the leaves. But all of that is part of the carbon cycle of the natural system. We have disrupted that carbon cycle significantly. We plowed all of the grasslands of the Midwest in the early settlement of the United States, releasing millions and billions of tons of carbon dioxide into the atmosphere that had been stored in the soil.

The United States emits about six and a half billion tons of carbon dioxide into the atmosphere each year. Globally, I think we're up around 35 billion tons of carbon dioxide. These are disruptions to that natural environmental system. We make plastics. We use plastics. We throw them away and they get washed into the river systems in Asia.

And all of a sudden you've got a mass of plastics out in the Pacific Ocean that is bigger than the state of Texas. That type of activity is not part of the natural cycle. So I see the concept of a circular economy as getting our human economy more in sync with natural cycles and systems. And so rather than having a waste product that gets dumped at the end, we bring the circle back around and you turn that waste product back into raw material or material input.

And so you make things out of what you have already used and rather than disposing, you recycle. So recycling is a form of circular economy.

Nivien Saleh

It seems many of our problems with the linear economy come from the fact that we don’t attach a value to nature when it is untouched. I know it goes back at least to John Locke, an English writer that I in

many ways admire. He wrote two books called The first and Second Treatise on Government, and those books exerted a great influence on the founders of the United States. The influence is quite clear, for example, in the Declaration of Independence.

John Locke said the way you create ownership in land is you go into nature and putting your work into it. That creates value – value which was not there before you touched it, and therefore you may now say, “I own this land.” So the thinking is that nature before you put your labor into it did not really have much value.

Would you agree that our problems with the linear economy go at least that far back?

Jim Blackburn
It probably goes further. I think it probably goes back to biblical passages and things like that, with nature being a gift. You know, we had the creation, we have the gift of nature. It was there to be to be used, if you will. There was human dominion over nature, which is a biblical phrase that's being reinterpreted now to mean more stewardship rather than true domination. But nonetheless, historically of going well back in history, there's a long tradition of nature being there to serve us. When we developed our modern economic systems, we failed to put value to that gift.

So I think that you're right. There's a fundamental flaw in the thinking that nature had no value to begin with. Nature has tremendous value. It's just not reflected in our current economic system. And so the circular economy would definitely value those functions of nature that would be restorative of the cycles that we're talking about. So a perfect example would be carbon dioxide being removed from the atmosphere and stored in the soil.

Jim Blackburn
If you're the landowner you should be paid for the carbon dioxide that's removed and then stored as organic carbon in your soil. If you're holding storm waters with your wetland, you should be paid for that if there's some benefit that we're that we're getting from it. And if you're on the west side of Houston and have a wetland, you should be paid for keeping it natural because we need all of the storage capacity out west that we can get.

If you own a marsh land along the Texas coast, you're basically cultivating, growing about six thousand brown shrimp. Seven thousand white shrimp. Six thousand blue crabs per acre per year. All of that goes into the bay system. It's a wonderful resource that shrimpers collect, that the fishermen use or bait. But no one is paying you for that. Yet your land is providing that service.

Those are natural functions that are serving human needs. Now, I emphasize the serving human needs because one of the problems with just absolute value for everything nature does is it's hard to find someone who would actually pay the money for it. So we all get the benefit from it. But finding someone to pay may be difficult.

I think that could change in the future. Certainly to remove carbon dioxide from the atmosphere is a service that we vastly need right now.

As a civilization, we have to come up with mechanisms to reduce the carbon dioxide content. Nature will be the solution to that and we need to value that.

Nivien Saleh
Is carbon sequestration the main aspect of your idea of a circular economy or are there other components to it too?

The Texas Prairie is at the Center of the Circular Economy

Jim Blackburn
No. Carbon sequestration is a key aspect, but water sequestration, there's taking rainwater, rainwater and getting as much of it into the ground as we can during big storm events. Up the Brazos River, north of the Sugar Land area, which is southwest of Houston, there is a whole set of levees along the Brazos River. They probably need to be higher than they are. If we put more water into the soil back up in the watershed, you wouldn't need to raise the levees.

So I see a huge benefit from storing water in the underground areas, the soil. Similarly, I think you can enhance water supply. I've been very concerned about water supply for our bays because bays absolutely need fresh water inflow to produce all of the wonderful things that they produce. And I was particularly concerned about blue crabs in the relationship with freshwater inflow to blue crab production. Because among other things, whooping cranes, an endangered species, need blue crabs.

That's what their primary food food source is, how we're gonna get water for whooping cranes. They're nowhere on the Texas list of priorities. Well, one way may be to pay ranchers to ranch in ways that put more water back into the soil and might enhance spring flow. So there are values beyond carbon that nature can provide.

Nivien Saleh
But if Texas, as you say, does not value the endangered whooping crane, how can you pay Texas ranchers to implement the circular economy that will allow that crane to exist?

Jim Blackburn
Well, I mean, that's where the law comes in. In the case of the whooping crane, it's an endangered species. I litigated the whooping crane case before the Corpus Christi Federal District Court judge, Janis Jack.

And she wrote a magnificent decision that protected the whooping cranes. I argued that at the 5th Circuit Court of Appeals and lost and then was able to work out an agreement with the Guadalupe Blanco River Authority. And they and the group I'm now president of, the Aransas Project, the two of

us are working together to try to achieve what we were in court to try to force. And it's interesting, we are now managing through partnerships to come up with things that we would be unable to come up with perhaps as fighting adversaries.

So it's important to have the power of the law, but it's also important to try to use it in creative ways and to use it more to get attention. But then once you have everyone's attention, come up with solutions. Because in Texas, I'm fond of saying, you cannot win an environmental law case unless you solve the problem. For the proponents.

Nivien Saleh

So let me summarize: In a perfect world, our society would value nature in absolute terms and respect all its cycles simply for their own sake. But the world isn't perfect, and our society only values nature when it visibly addresses a human need. For an environmentalist like you, coming to terms with that means implementing circular economy concepts wherever that is possible, and that means aligning society's way with the cycles of nature. And that in turns means being creative, finding compatibilities between society's perceived needs and those of nature, and at times using the law for leverage. But always trying to show Texans how working with nature, rather than against it benefits us.

When I read your writings about the circular economy, I was very much reminded of the slogan reduce, reuse, recycle, and then I thought, well, I think that slogan's been around for quite a while and I googled a little bit and I found out that probably originates in the 1970s. Would you say the circular economy is captured in "reduce, reuse, recycle," or does it go beyond that?

Jim Blackburn

I think of it to some extent it is more avoidance, minimization and mitigation. And the three Rs that you said fit within that construct. I think in a way that got oversimplified. It got too narrowly interpreted. When you hear the word recycle and all of a sudden everyone is thinking about their garbage. I mean I'm thinking about recycling carbon dioxide, I'm thinking about recycling water.

But that's not the common context of that word. So I would tell you the big difference is: The scope of what's possible with the circular economy to my mind now is much, much larger than anything I've ever encountered. What we're talking about essentially is a whole new economic system. That is what I think is in front of us.

Nivien Saleh

All right. And the major component that you're currently trying to tackle of the circular economy is carbon sequestration. Let me let let me tell you what I think it is. And then you tell me if I got it correct.

So in twenty seventeen, the United States emitted 6.5 billion metric tons of CO2 equivalent. And that includes carbon dioxide, which is CO2 plus methane, nitrous oxide and fluorinated gases. And these six point five billion tons of carbon dioxide contain about one point eight billion tons of carbon. So for

every three point five tons of carbon dioxide you get, you have one ton of carbon. So. Ideally, the goal would be to every year remove one point eight billion tons of carbon from the atmosphere, for example, by putting it into the soil. And if we managed that, we would have zero emissions and that would be really cool. But of course our world isn't ideal. But what you also say is that we have one billion acres of land in the United States that could be used for carbon sequestration, which means for putting carbon into the ground.

And you also say that while this land is sequestering carbon, it can, in addition, be used for grazing cattle. So you don't just have to use it for one purpose. You can use it for two purposes.

How much carbon could this land remove from the atmosphere every year?

The Texas Prairie Could be a Great Carbon Sink

Jim Blackburn
Well, I think there are different pieces to it. The prairie grasslands of the central United States could easily take out a billion tons of carbon dioxide each year and store it in the prairie soils. It could be .. perhaps as high as 2 billion tons of carbon dioxide a year. Now, I like to talk in terms of carbon dioxide rather than carbon because it gets people confused if we keep switching back and forth.

So most everybody talks in terms of carbon dioxide equivalent. But your metrics were correct. It's just it gets very confusing for people to switch back and forth. So if you look at United States having 6.5 billion tons of carbon dioxide equivalent emissions, then we could probably get maybe as much as a third of that into the prairie soils of the United States. We also have the forests of the United States that would be available, although forests make me a little more nervous because of the forest fire potential.

With soil storage I'm not worried about fire. The worry with soil is someone might plow it up and release the carbon or transform it to another land use. But there are ways to protect against that. But collectively, there's a lot of potential.

Nivien Saleh
And let me just clarify what your concern is about fire. The idea is that if you think you store carbon in trees and then the trees burn down, all the carbon gets turned back into carbon dioxide. So you can it can all go up in flames.

Jim Blackburn
Your storage is gone.

Nivien Saleh
Yes.

Jim Blackburn
On the other hand, if you don't have a fire, you can harvest your trees, you can turn them into timber and then put that wood into a building and then go plant new trees. And you have a building that is a carbon sink as well as a new tree that's putting more carbon dioxide at pulling more out of the atmosphere and turning it into timber.

Nivien Saleh
Meaning: There are ways to sequester carbon from trees even though trees are not part of your specific model of carbon sequestration.

Your model focuses on prairies. Tell me: How does it work to put carbon dioxide into the ground in a prairie? Give me a very simple example of a farmer.

Jim Blackburn
Okay. Well you ... you think about a plant, a native prairie. It's got all of these different types of grasses. You've got some flowering plants. You've got plants that animals graze, but usually a variety, maybe 40, 50, 60 different species. All of those species have deep roots systems. Native prairies have root systems that are probably on average three to six feet deep. Many of them go as deep as ten to fifteen feet.

Well, that is where the carbon storage takes place. It's underground. The plant removes carbon dioxide, turns it into carbohydrate, releases oxygen. That's photosynthesis. Carbon dioxide is turned into a sugar, a carbohydrate. That goes down into the plant's root system. The roots grow. That's putting carbon into the soil. And then the sugars are dispersed into the soil.

And over time, that carbon becomes a part of the ecosystem of the soil. So healthy soil is one of the key principles of a circular economy. The healthier our soils are, the more earthworms we have, the darker the soils, the more organic matter we get in the soil, we're putting carbon in soil. So in soils, we may have the solution to the future of the earth.

It's all part of the natural process. The big problem is we've ploughed up most of our native prairie. We don't have those grasslands like we used to. And the reason why is because the grassland itself isn't as profitable as various types of mechanical farming would be profitable.

Nivien Saleh
All right. So we don't have those grasslands anymore, but we have something growing there. Isn't that the same thing?

Jim Blackburn
No, not if you plow it up every year. We come in with, diesel tractors and just plow it up at the end of each year, and then we go replant it and go do it again. So in essence, we have a current carbon dioxide emissions system in our agricultural setting, and we could transform that into a carbon sink and into a very sustainable practice that actually would make much more money for the landowner than the

current system. Now, if no one will pay to put carbon in the soil, this doesn't work. So we have to have buyers, for the carbon storage capacity. And much of my time working on these days is actually trying to set up a system to enable these transactions.

Nivien Saleh
Would you also say that not all plants are created equal, that some plants, - for example, Big Blue Stem, I think, has roots that go seven feet deep - are better than other plants and some grasses are better for carbon storage than others. So if you move to planting different varieties of grasses, you can increase the carbon sequestration through putting in plants with deeper root systems.

Jim Blackburn
I think that's right. I think really restoring the native prairie is what we want to do. And that is actually a variety of species.

The Texas Prairie Could Offer 80 Years Worth of Carbon Sequestration

Nivien Saleh
I was a little puzzled by this one. When you put a plant in the ground, let's say the first year, it develops one cubic feet of roots and then the second it develops two feet and that cubic feet and then the thought maybe three feet. And then I'm thinking that at some point it stops growing cause it can't like grow to the middle of the earth. Right. So so would you say that once it has reached that size, it stops putting additional carbon in the ground? Or would you say a part of its roots die every year and it grows new roots. How does that work?

Jim Blackburn
We're studying in that right now in the systems that we're trying to set up academics, those that measure soil carbon treat the root system differently than they treat the soil organic carbon content. Over time, the organic content will grow even if your root system were stable because you're putting the sugars out into the ecosystem and they're being digested by the worms and by various microorganisms and things like that. So there is a constant movement of carbohydrate out of the root system and into the soil system. Some of that gets respired back into the atmosphere. But if you measure the carbon, you can pick up the increase in soil carbon.

Jim Blackburn
During the winter, you may have a die off of some of your root system. If you're in a drought condition, some of your roots may suffer. That may respire back into the atmosphere or it may turn into permanent soil organic carbon. But it's all part of a process of building those soils up. Now, the question has been raised: Is there a saturation point where you won't be able to put any more car ld say with most of our carbon systems, that saturation point, it's not going be anytime soon. I've heard the number 80 years thrown out.

But we also want to study the few remnant natural prairies we have to see if they're still gaining. We have a couple of prairie sites that are several hundred years old. The best we can tell, they've never been plowed since Texas was settled and likely weren't plowed before that. So, whether they are still putting carbon into the soil is a very interesting question. I would love to think that they are.

You find the answer to it by measuring. And it's relatively easy to measure carbon. We've just not been doing it. We have very little soil sampling data that has been done the right way to actually determine how good of a solution these soils will be in terms of putting and storing carbon, putting carbon away and storing it. It's just not been an emphasis point. The oil and gas industry loves technology. They've spent billions of dollars on technological carbon capture and storage.

The idea that nature through photosynthesis might have already come up with that solution is a very hard concept for the oil and gas industry to really comprehend. It is so contrary from their way of thinking. And it's not a knock on them. It's just they are very much a people that are in an environment of pumps and pipes and technology, and that's kind of the mindset. And the idea that we could actually use nature to solve this problem, just is a hard concept to discuss really with somebody that has grown up ... that's spent their entire career in the oil and gas industry. Yet .. yet it may save them.

Nivien Saleh

The concept is that a farmer or ranch, removes a ton of carbon dioxide from the atmosphere by altering his land management practices, putting that carbon into the ground. And for that additional amount he puts in the ground, he gets carbon credits. And those he can sell. Correct? So you would have to have a measurement at the beginning when he starts doing it and then maybe a measurement later to see how much additional carbon there's in the ground.

Jim Blackburn

That's correct. And you basically get paid on a per ton basis. So the real question is how many tons per acre of carbon dioxide are you putting into the soil? Rates, depending on management, can vary from a half a ton per acre, upwards of perhaps two tons. If you overgraze your property, you could be negative. You could actually be releasing carbon from the soil if you're managing your land in a very poor way.

So you know I mean it is easy to see: If you're using diesel, if you're plowing, you are putting more carbon into the atmosphere than you are sequestering. If you are managing your property in certain ways, you might be able to get up to four to five to six tons of carbon dioxide per acre per year. I have heard reports. I've seen data. It's sporadic, it is spotty. But if you could be talking about numbers like that and we got the price of carbon up to $40 a ton, - which is much, much cheaper than any of the technological solutions the oil and gas industry is talking about - if you could offer a farmer or rancher two hundred dollars an acre free and clear. Whoa, you've got everyone's attention.

A Carbon Sequestration System that’s Landowner Friendly

Nivien Saleh
And the farmer and ... the farmers and ranchers are the linchpin of all of this, because I think over 90 percent of the land in Texas is in private hands. Correct?

Jim Blackburn
That's correct. There are carbon transaction systems that are out in the world, mainly derived out of the Kyoto Protocol, which was an international treaty on carbon dioxide that came out of the late 1990s. And those are not landowner friendly. What we're what we're working on at Rice is developing a landowner-friendly carbon standard so that the landowners will actually want to participate. So the key in a country like the United States with so much private property is to get those private property owners comfortable sequestering carbon.

It's a new crop. You become a carbon rancher or a carbon farmer. And it's just a totally different way of thinking about agriculture.

Nivien Saleh
That means you have a huge amount of work ahead of you, because if the farmers have never thought of carbon sequestration as a crop, they probably don't know where to start. They don't know what grasses put how much carbon into the soil, how how do you help them see that?

Jim Blackburn
Well, the first thing is create the market. Right now, there's no reason for them to learn this. If there's no one that's willing to pay for it. So the first thing is to find companies, to find individuals that are willing to sequester their carbon footprint. Creating that on a voluntary basis is a huge challenge. It is not happening very much at all right now. However, if the money starts flowing into the ranchers that are doing good management practices and their neighbors see that cash flow and hear about it, it will be an amazingly short transition time.

One of the big changes in me over the many years is to understand better the power of the market system and to understand how to utilize it to actually work for us in these goals. And if we can create markets that allow people to make money and to come out ahead economically by doing quote unquote the right thing, then that that's perfect because corporations can change on a dime.

Say they were going in one direction and all of a sudden they realized money was in a different direction, they can turn almost overnight to pursue that money. I mean, it's amazing how fast that change happens, and that's because they want to change. And that's because they're set up to pursue money. Our whole system is set up with the pursuit of money. But if you don't value what's important, it doesn't register on the system. So that's what we're talking about "reforming the economic system":

It's putting signals for money making in places they've never been before. And then basically allow the economic sector to move to the money. And I think that is going to be huge.

Nivien Saleh
The farmers will not start paying attention to this until there is a market, until there is demand for this sort of sequestration. So you're going after the demand first you try to enroll companies that are interested in carbon offsets, carbon credits. How do you do that?

Creating a Functioning Market for Carbon Exchange on the Texas Prairie

Jim Blackburn
Well, I think the first thing you do is what we're doing at Baker Institute at Rice right now, which is to set up a system that is transparent and that is hopefully accepted as a credible way to go about sequestering carbon, keeping up with it and transacting it. That is really not well established in the United States right now. We really don't have that type of a system that is functional. There are several people that are working on it around the United States. But right now, I would tell you we are really almost at the starting point of establishing a functional carbon market. Buyers will not buy if they don't think that the credit is credible and they won't buy if they think they will be attacked by the environmental community, by skeptics that are questioning whether this is real, whether this is greenwashing or whether it's a true putting carbon in the ground. And so those are the tensions that are out there about the system. And the challenge is to develop a system that gets past these hurdles and creates a credible transaction system for buyer and for seller.

Nivien Saleh
So a central element of that will be your certification authority.

Jim Blackburn
That's correct. A certification authority is a key element. And a set of standards is the first key thing. We've got to have a set of standards that'll work for buyers and sellers. Then you need a certification entity to certify that the credits that are being offered meet the standard. So there's sort of two different stages there, both of which are very important.

Nivien Saleh
And how how far are you from getting a standard and from getting a certification authority?

Jim Blackburn
Well, it's a good question you ask. It's a bit hard to say. We've got a working group that's been working about four months now over at Baker Institute at Rice. We've got some working principles. That would be the basic framework. We have to come up with a protocol for measuring or modeling the amount of carbon dioxide that has been converted and is being stored in the soil. You've got to do that in a credible way. We're working on those metrics and on those methodologies right now.

And I'm hopeful by mid-summer we will have a consensus document that would say this is what we think the standard should be. And hopefully we'll have talked to several different organizations about whether they would be willing to become a certification arm of this standard. Those are concepts we're talking about.

Dreaming the Year 2050

Nivien Saleh

That sounds like a really, really worthwhile project. And and I hope I hope it works out. That will be wonderful. Now. You're working so hard. Close your eyes for a moment and think 30 years into the future. What are you imagining?

Jim Blackburn

Well, ... it's what I'm dreaming. It's also what I think has to happen. We're going to be into a competitive economy in the 21st century that's very different than the 20th century economy that Houston was so successful in. We were successful beyond just about any city, you know, probably par with almost any city in the world in the 20th century. In the 21st century, if we don't become carbon neutral, if we don't have a plan for getting down to zero or even carbon negative, where we're putting more carbon dioxide in the ground than we're putting up, Houston's economy is going to be in bad shape.

You said 30 years, that's 2050. 2050 is the year that the Intergovernmental Panel on Climate Change, IPCC, has identified for the world being carbon neutral. Houston is ground zero for carbon emissions in the United States. It is the center of ownership of a large chunk of carbon emissions in the world. We are ground zero for carbon dioxide emissions.

We are going to have to do an amazing turnaround to be competitive in 2050. That is just absolutely imperative. We also have a plastics industry that is not circular right now, and there are all types of pressures coming on the plastics industry to become circular. And so not only does the oil and gas industry have a challenge with carbon in the circular economy. The plastics industry has that same problem with their pellets and with their products and so Houston, the Texas coast, Texas, the United States are going to have to embrace this circular economy because that's where the markets of the future will be. That's where the demand will be. And they will get there. It's just when they decide to make the move, will there be affordable carbon credits to be had?

Those are the things I see coming in the future, and I don't see a lot of action being done on it. There are certainly some people thinking about it. Some forward-thinking companies, a few are making investments to put them in very unique positions. But by and large, we haven't seen our companies respond yet. And one of the interesting things about COVID and with the economic crisis that we're

going through at the current time is it actually might end up in a funny way be a stimulus for adaptations, for things that have not yet hit.

COVID caught us by surprise. COVID you know ... it's basically shut our economy down. I'm sort of horrified and certainly shocked at how vulnerable our economic system appears to be. I think that's to some extent because we don't have as good of a foundation as I'd like to have. That foundation can be established with the circular economy, but we've got to move.

Nivien Saleh
You talked about your working group at Baker Institute. You're working on a certification authority and the standard. You spoke about the ranchers that are not yet getting involved, about the companies that need to develop demand. But what can regular listeners to this podcast do? What actionable advice might you have for helping in small ways, getting us from where we are to where you would like us to be?

The Texas Coastal Exchange

Jim Blackburn
Well, we've formed a non-profit organization called the Texas Coastal Exchange. You can go to the website. If you just google Texas Coastal Exchange, you can make a donation to Texas Coastal Exchange and they will sequester your carbon footprint in the soil of either the marshes of the Texas coast or we're hopeful of having prairie tracks introduced into our inventory. Most of us, I'd say on average, each of us probably produces about 10 tons of carbon dioxide per person per year. For a donation of $20 per ton or about 200 dollars a person, your footprint can be stored in the soil of the Texas coast. That is something you can do. If enough people begin to do this, then we can start paying ranchers to manage their lands in certain ways and dedicate it to carbon storage. In that way, we would not only preserve the carbon sequestration capacity, but we're also targeting the prime ecological lands of the Texas coast. And so we're preserving an ecologically important land that also is sequestering carbon. And your footprint could be right in the middle of it. That's one thing you can do.

Nivien Saleh
So we individuals can be carbon neutral. And moreover, by engaging in this as a group, we can show that we value this. And when you have a large number of people say: this is what we value, then companies may catch up and say , here, this is where the market is going. This is what our customers like. This is what they will look upon favorably.

Jim Blackburn
That's exactly the thinking. And we're hopeful of talking with employees of some of these major companies and seeing if we can get a movement within the employees to sequester their individual footprint, even if their company would not choose to do so. I'd love to see ... the companies compete

with each other, the employees of the companies compete with each other to see which company could get the highest percentage involvement of their employees in carbon sequestration. Just as a statement, cause statements are important here.

Nivien Saleh
Absolutely.

Jim Blackburn
We're talking about first steps. I mean, the companies remind me of a group of birds sitting on a wire, and there's food down there on the ground. But nobody wants to be the first one to make the move. How how do we get that flock of birds to the ground and feeding on carbon sequestration? Somebody has to move first. Who is going to be that first mover? I don't think it's negative publicity. I think it's I think it's going to take positives as opposed to negatives. That's why I'm focused on economy as a solution. That's why I'm focused on trying to find ways within the corporation to work. I'll talk to any corporation about these things.

I'm almost totally non-judgmental, which would be perhaps a huge difference in where I started. I probably was very judgmental in the early 1980s, and I'm a lot less judgmental today. More with trying to understand how the companies got to where they are and how we can help them get out of the kind of thinking morass that they find themselves in where they simply can't recognize the best idea that's in front of them because their eyes don't see it. And part of this is just helping them see. Not beating them over the head, but helping the realizations come.

Nivien Saleh
The Texas Coastal Exchange. Jim, thank you so much for all the work that you've been done and for thinking outside the box, coming up with new ideas and most importantly, for being on the show. Thank you.

Jim Blackburn
Thank you so much.

Nivien Saleh
This is it for today. If you want to learn more about Jim Blackburn’s work, you can find his book “A Texan Plan for the Texas Coast” in the book store. To store your carbon footprint, go to TexasCoastalExchange.org.

If you enjoyed this show, please tell a friend.

I’m Nivien Saleh, with Houston and Nature.