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## **WESTERN AGRICULTURE AT RISK FROM CLIMATE CHANGE AND COMPETING WATER DEMANDS**

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Thank you very much for the opportunity to be here. I don't have a PowerPoint because my talks generally ramble around. I like following Roger. I've done it one other time. His insights are helpful for me and for what I talk about later. This talk was going to be about unintended consequences, which in some ways it will be, but it will also be about, I'll use one of Roger's phrases, living in areas of risk. I think that is something we ought to talk about. This fellow down here has asked the question a couple of times, and I think it is important to talk about the reality of where we are. Farmers are the ultimate reality check as far as we're concerned. I don't have to dance around being represented by too many different groups. Really,

what we represent are farmers. The Family Farm Alliance, as was said earlier, represents farmers in the western United States, from Texas, Oklahoma, the Dakotas to the West Coast. I think what we bring to the table is an ability to go to the grassroots and report back as to what is actually happening on the ground. We try to do that in a responsible way. I see Mike Connor is still here from Senator Bingaman's staff. We have tried to be a nonpartisan voice of what is happening with water in the West. I have really enjoyed the interchanges between the congressional staffs yesterday, because it really is true that New Mexico's staffs on water and on natural resources always work together, and they have been such a pleasure for us to work with.

Our group has testified before Congress and has met with people at the White House and done talks. The western governors' talk was the one Roger was at, and the western governors were looking at water issues and climate in a very in-depth way. We have been able to participate in that discussion.

Let me tell you a couple of stories. I was a legislator in Wyoming years ago. I was on a taskforce, and our current governor was on the taskforce. It was really trendy to talk about education and what we were going to do as educators and what kind of education we wanted. In Wyoming, the way that we presented this

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opportunity was to look at what a business wanted in an education system. Wyoming has a homogenous system. There is one university, and everything is controlled essentially through the state budget.

Interestingly now, fifteen or twenty years later, there is so much money in Wyoming because of the energy plan that any kid who wants to go to the University of Wyoming gets a full scholarship so long as they maintain some median grade average. That helps a lot in terms of your education philosophy. What the taskforce did back then was to bring CEOs in from all over the country. We asked them what kind of graduate they wanted. They all said a lot of different things, and we interviewed them individually in a nice, quiet atmosphere. They all said the same thing, and I don't think they were planning to be in Wyoming. What they said was, "We will always take a kid that was raised on a farm or ranch, no matter what their degree is in. We find that they are improvisers, creative, and able to deal with stressful situations." They said a whole range of things that I find are the values that we find in kids who are raised in agricultural situations. We're very proud of that. I look back on it, and it really has helped stimulate a lot of my thinking. There is something inherently valuable about having rural people doing rural things.

We have three children. My wife, my sister, and my granddaughter are here. You might have seen the little talkative three-year-old. That is my granddaughter. My daughter, who works at the ranch now, has my other granddaughter, who is the sixth generation on our ranch. My daughter is loading sheep on trucks today, so we're able to be here. We have a son at the University of Wyoming, and he is very interested in the ranch. We have a daughter, our middle daughter,

who works in Manhattan. She does PR. She, as a kid, always worked hard, but clearly did not want to be a ranch kid. She ended up in Manhattan. Just before her first day on her new job, she—this is a very confident person—called and said, "Dad, I'm a little intimidated. Everybody has ivy league degrees or some sort of resume that is really incredible." I told her, "Bridget, tomorrow you just go in there and say, 'My name is Bridget O'Toole and I can castrate with my teeth.'"

The other nonwater thing I want to talk about is bees. In that same period in the early 90s, Republicans were into budget cutting, and there was a lot of discussion in this country about who would subsidize and who wouldn't. Unfortunately for my industry—we run cattle and sheep on the Colorado/Wyoming border and irrigate—one of the political realities that came out of that was the ability to cut a couple of things. The Republicans said let's cut, so they cut a couple of things: wool and honey. Obviously, since I am in the sheep business, the wool thing was a big deal to us. Al Simpson was our senator, and we went back to him. He said, "There is nothing I can do. This thing is going to happen." It was the beginning of a long, slow decline in the sheep industry.

What I think is important to us right now is what it meant to cut the honey industry. At issue was the subsidy for honey. In fact, that market was to a great extent taken over by the Chinese, who then provided the honey. It isn't the honey that was a big deal for Americans today; it is the fact that we are now having a total beehive collapse in this country. We don't have a strong agricultural capability for those people to make enough money in the honey business to be viable and profitable. The long-term result fifteen years later is that the farmers that I represent in the central valley of California who need bees to propagate their almonds or the 60 percent of the crops in America that need bees to propagate are experiencing a beehive collapse nationwide. Unintended consequences are part of what I want to talk about today.

It really all goes back to water. As we have all heard, I have had the opportunity to hear the science about this stuff at many meetings now. Roger's presentation and Brad Udall and a whole group of people are doing the research and the science. There are many other groups that are trying to interpret the science as to what it means to them. All those people, a little fraternity or whatever, see each other at these meetings and try to interpret what it all means. The Family Farm Alliance began looking at these issues

before the drought really kicked in for other reasons. It has all kind of segued together.

We see the population issue as it relates to farming as a driver for why we should be doing certain things that we know should be happening. We are crop to crop, livestock production to livestock production. If something negative happens on a farm or ranch, what you do immediately is try to figure out how you are going to make it better quickly. The driver of the whole deal is the banker. The banker wants the thing to work, and so if it isn't working you need to do something different. Right now the banks are saying to a great extent, "Plant corn. Plant corn. Plant corn." Why? Because the country has decided in a major way, a policy sort of way, to have farmers not only producing food but producing fuel. It is going to create a tremendous dislocation in some parts of agriculture. I drove through Utah this summer, and there were sprinklers in operation. They have always had alfalfa, but they are now producing corn in Utah. The markets, in my mind, are so dislocated.

The Family Farm Alliance represents farmers. Anything that makes farmers do good, we're for. Our mission statement is very simple: Adequate supplies of affordable water. It is not much more complicated than that. In this circuit of things that are happening to us, we see that those things are changing rapidly. Our responses are in a report, and we have some copies of the report here. We've been working over the last few years on a couple of reports, one of which is on storage, which we anticipated before this became such a climate driven issue but rather because of the impact of growth. There must be more storage in the West, not for agriculture but so that agriculture is not the shock absorber for growth. That is what we are seeing. You pick a state, and I will tell you a story. We know west-wide that there are things happening on such a massive level in terms of loss of irrigated acreage. We're running as fast as we can as farmers to be more competitive, more creative, and more efficient to conserve more. The reality is that it is happening faster than we can get our arms around it.

We presented a letter this summer to a commissioner of agriculture in a state I won't mention, but it was about a farmer in whose community all of the water was cut off because of the issues of groundwater that we are all so familiar with. We are familiar with the understanding of the interaction between groundwater, surface water, and drought. There are large groups of farmers, who for a lot of different

reasons—political and otherwise, are losing their water. This letter talked about his two neighbors who committed suicide, one on either side of him. His new sprinkler system that he had put in now has no water. And it is the whole community that is hurting. One of the really great productive communities in this state is gone. That is going to start happening over and over again.

What we are trying to say is, as farmers, you have to do real things. You have to do things that matter. You can't do just policy interpretation. You have to be able to act today.

There is a variety of things that we work on. Actually, we had a debate a couple of years ago. Gary Esslinger is on our advisory board, which is such a great group of people. Our board of directors is all farmers. Our advisory group is

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people from irrigation districts, attorneys, and people who work in the water world. We have a pretty good ability to see what is happening in the West and why it is happening in particular places. We talked about immigration because it was such an issue to a lot our guys. No. We'll water. That's our deal as Family Farm Alliance; we want irrigated agriculture. So we didn't do immigration.

One of the things we are working on that isn't particularly associated with irrigated agriculture is produced water. Someone asked the question about what is happening with the energy sector. I can't overstate what it means to a country that says to its farmers "Produce our fuel." It is changing the world in a very fundamental way. The unintended consequences will be generational. I guarantee that. If you try to look at it from a positive perspective, if you listen to the oil shale presentations instead of being down on the western slope of Colorado and hear about the percentages of the flow of the Colorado River that are going to be needed to boil the oil shale to make fuel, it is stunning, stunning stuff. That water has either got to come from cities or from agriculture. It is new water.

One of the things we have looked at and I have been involved in personally to some extent is what is called produced water. I know there is a lot of it in New Mexico. If you talk to the energy companies, which we have done more than maybe we want, they consider water to be a disposal issue. Can you believe that? Water is a disposal issue. We're looking at flows of tens of hundreds of thousands of acre-feet over decades of produced water that is going to come out

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of the western states. In some ways, I kind of think we think of ourselves as sort of being in a Forrest Gump life. All this stuff keeps happening to us.

I listened to the Forest Guardian guy here yesterday. Forest Guardian means to people who have public land, as I do, not good things. I thought it was interesting that he did a couple of things. One was his discussion of forbearance. I thought I knew what it meant, and I kept asking, "What does he exactly mean?" Let's just

say it: We don't want farmers to farm. We can't use euphemisms in this new world we're in. We have to be straight with each other. The reality of it is that farmers in every state in the West who we know about are going out of business because we have growth that is unsustainable. That is the bottom line. What are we going to do about it?

I'll go back to a cousin who is a county commissioner in Wyoming. She is a wonderful lady. She won an education award recently, which is for the best teachers in the country. She ended up being chairman of the game and fish division. She is a person with a wide range of background experience from the ranch mainly. She got behind an attempt to have a 640 acre minimum on growth and zoning. Six hundred and forty acres is unbelievable in terms of what other parts of the West are looking at in terms of zoning. In our county, which is divided by I-80, there is a guy from California, who is selling in one area called Separation Flats, which is either separated from water or separated from reality. He is selling and foreclosing over and over again on these poor son-of-a-guns who want to have some land.

They foreclose, and he gets the land back and sells it again. He became engaged in a political fight, and the lady got defeated. When we talk about the implication of zoning on how we are going to plan in the West, remember that grassroots people have a very strong private property reality check that you better think about. If this lady couldn't survive a guy sending ads to the local newspaper from California, then it shows just how difficult zoning is going to be.

Several times I have been on speaking opportunities with Pat Mulroy from Las Vegas. We disagree on an awful lot of things. We do agree, and I do not know if the students are still here, that what this drought is doing and what this climate change is doing is pushing us 20 years ahead. The discussions that we were having ten or 15 years ago with a 20-year look at what might happen, those things happened just overnight.

On our farm and ranch, we have a lot of experiences that are personal. I want to just mention a few of them, because to us it is the tangible things that we see on a daily or monthly basis that make us realize that something really is happening here. That is what made the Family Farm Alliance try to anticipate what we can do as solutions. People are calling and asking: What is happening on your farm? What is happening on your ranch? We live at 7,000 feet and graze livestock at 10,000 feet in the summertime, very traditional. We are right at the base of the Continental Divide. My old legislative district was the headwaters above the Platte in Colorado. That is sort of how I got into the water business. You used to be able to know in the springtime that there were places where you didn't ride your horse. It was just marshy and springy. You just didn't go in there. You can ride right over it now. That is the accumulative effect of the loss of groundwater.

Last year in April, 80 degree temperatures made the hydrographs go like this. The creek that runs through the middle of our land you wouldn't cross horseback. Now it didn't matter. There wasn't any particular high water. Those are the kinds of things that if you have storms later, you know that the whole system is changing. We take a lot of pride in some projects that we have done. We graze livestock. We are very fortunate to be able to have almost an entire drainage of about 25 miles with either grazing permits or irrigated agriculture. We graze everything, and we also have the highest water quality in the entire system. We are working on a project with the Fish and Wildlife Service

to put structures in to integrate our fishery with our irrigation withdrawals. That's about the most fun I have. That is one of the things Family Farm Alliance, I think, is trying to do. There are a lot of different ways to describe it but one of them is called the radical center. These are people in the West that have common interests who have maybe previously been considered to be antagonistic who are now working together. We worked this year and are continuing to work on the farm bill with the Nature Conservancy. We are trying to look at it, so the Equip Program, which I am sure many of you are familiar with, can be used on a watershed basis. That is how we think that things should be approached—on a watershed basis, so that all the different players can work together to look at what obviously is a change in climate.

I think in our situation, and this is a bit selfish in a way, if warming was wet, it would be great. It means longer growing seasons and more water, but we do not know that. If it is dry and it continues to have the dry parts to it, it is not good for us. Right now we have our sheep operation, which is utterly dependent on snowfall from this time of the year forward—before Thanksgiving until March and April. Our guys are now out chopping frozen reservoirs. It gets down to zero degrees or below every night. They are chopping frozen reservoirs to get water, and that is the last of that. In another ten days to two weeks, you start hauling water, which, if you know anything about the sheep business, is the last thing you want to be doing in the wintertime. We are seeing those kinds of effects on a cumulative basis that tell us that things are happening, and we have to respond to those things.

From the Family Farm Alliance's perspective, we put out a report a couple of years ago on storage. What it said was that we are not advocating any particular storage, but we are advocating that we look at the issue. We do not want to be the shock absorber, which is what is happening today. Agriculture is the shock absorber for growth. Farms and ranches are going out of business all over the West to a great extent because of water issues. There is a whole accumulation of issues, but it will become more and more related to water issues, whether it is shutdowns from states or just the reality of less water.

On the last energy bill, with the help of Mike Connor and others, the Bureau of Reclamation put together their entire list of projects that have not been completed with an existent hydro-component. Family Farm Alliance thinks it is important for that to be out in the

world so that everybody can look at it. There are a lot of potential projects. We hear from some that the big dam era is over. We know that. I drove some cattle in western Colorado and Utah. Rifle, Colorado, has a 14,000 acre-feet project, and above Rifle Ridgeway, there is a 30,000 acre-feet project. I talked to Gary Esslinger about the flood control capabilities in southern New Mexico and taking the monsoons and storing that water. That is what we are talking about, people coming together on a watershed basis with a wide variety of experiences to look at what you do with drought. We cannot all just walk away. We are going to have to make a lot of hard decisions. There will be winners and losers in every decision. Believe me when I tell you that it is farmers that are taking it right now. It is farmers that we're losing.

It is open spaces that we're losing. It is fisheries that we're losing. It is wildlife that we're losing in today's world, because we don't have the ability to synthesize this incredible pressure that is coming from, say, Pat Mulroy, who is from Las Vegas. Her current solution is to go to some of our members' places in southern Utah and go to rural areas in Nevada and take their water in pipelines to Las Vegas. I talked about the horses walking over the marshy places. I guarantee that if you take all of the underground water, there will not be any marshy places, any birds, any farmers, or anything else.

As we make these decisions, I think we are going to have to do it in a very thoughtful way. We need to be looking for partners rather than for confrontation. There is an awful lot of opportunity that this climate issue is fraught with including the ability of people to take political stances. It can't be that. I think you use the New Mexico model where people do not fight over water, they work together. I think that is really important.

As I said, our recommendations are to prioritize research needs and quantify projected water needs and hydrologic impacts. I think that is in the Bingaman and Domenici bill. We are going to testify why we think information is a good thing. Another recommendation is to implement a balanced suite of conservation and supply enhancement. That means let's look at storage and conservation. I can tell you

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from experiences as an upper basin irrigator, it is that water that flood irrigation puts into the system early that creates the fishery down below and the water for irrigation later. We must be careful when we look at conservation as being just the only answer. I have some sprinklers, and I love them, but I guarantee there is no flow back into the river. Our flood irrigation is what puts water back into the river for the long-term.

Another recommendation is to streamline the regulatory process to facilitate developing new infrastructure. This is a real important one. We have met with virtually everyone—Corps of Engineers, Fish and Wildlife Service, this president's committee on water and environment—because the permitting process for anything you do in the West now is so complicated. I look at Roger's figures with all of the diagrams and numbers, and I immediately thought of the Gregorian knot and what Alexander the Great did. He took this big, complex thing and cut it with his sword. That is what we have to do with water. We have to be able to act when a state or region decides this is the right thing to do. We cannot take 20 years to permit. We just can't do it. We can't afford it. Regulatory streamlining is part of our perspective.

Another recommendation is to make sales efficiency and improved production a national priority. We are going the other way, folks. I think there is an Argentine guy that we heard about who plowed all day in the pampas in one direction, stayed to the right, and then plowed all the way back. That is the kind of food production that is being encouraged worldwide at the expense of, to a great extent, our food production. No regulatory oversight, and interestingly, he was plowing over the irrigation ditches. The irrigation ditches were made by the Incas. If you go up to Machu Picchu, there is not only incredible architecture, but the ancient irrigation system remains in place. As drought pushed natives further and further up into the mountains, they created irrigation systems up there for food and self-sufficiency. That is an important lesson for America.

The last recommendation is to find ways to protect farmland. It is pretty self-evident. I really appreciate the opportunity for the Family Farm Alliance to participate in this meeting. You have great representatives from New Mexico, and the Family Farm Alliance is out there to protect the environment.

**Question:** Standard economic models that I have seen—I'm not an economist—but they all seem to show that as the value of water goes up, the highest economic value of water is to invest it in cities, not farmland. Therefore, from society's perspective and approach, we come to the logical conclusion that what we ought to do in times of scarcity to maximize total economic output is to convert water in agriculture to water for the cities. I am curious how you would respond to that sort of conclusion.

**O'Toole:** The last fair-sized project built in the West is in our valley. It was a project I was involved in. It was a multigenerational project. We are selling that water to farmers in our valley to save our lower valley. I think it is \$8 an acre-foot. You saw all of the models yesterday including the Big Thompson. What's funny about the Big Thompson is that it isn't just \$20,000 an acre-foot—that is for nine-tenths or eight-tenths of an acre-foot. Obviously, the economics are divorced from the reality of producing food. We are going to have to make some social decisions. Those social decisions are: Do we want to have farmers? Do we want to have open spaces? The reason I think that some of the conservation groups and we are working so hard together is that we realize the interchange of having those social values. They are all our values. That is a decision our society has to make. Pat Mulroy tells me that in 2014, if we can't keep Las Vegas growing, the construction business is going to collapse.