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Agriculture Committee
September 25, 2007

[LR76 LR136 LR188]

SENATOR DUBAS: (Recorder malfunction) [LR76]

SENATOR PREISTER: (Recorder malfunction) (Exhibit 1) ...Nebraska made a strong commitment to the citizens of Nebraska when it created the only statewide electric system in the United States that is wholly owned by its citizens. Nebraska legislators and citizens weighed the economic benefits and determined that local ownership is the ownership model that is in the best interest of us all. Though the C-BED model is a "hybrid" local ownership model, it continues Nebraska's commitment to public power. Under both models the ownership remains with Nebraska citizens through a partnership between our public utilities and our communities. Just like our forefathers debated and weighed the benefits of local ownership in the previous century, we too discussed and weighed these same local ownership benefits last session when we passed Senator Dierks's C-BED legislation. The support for the continuation of local ownership of wind development was stunning; all 49 senators voted to adopt this model--there was not a single dissenting vote. It is clear that both rural and urban senators understood the importance and value of Nebraska citizens continuing as owners of our public power system. As we move to diversify our electric energy portfolio to include more generation from renewable energy sources such as wind energy, it is important that we retain this commitment. I also want to remind you of an important discussion that took place at the Norfolk hearing about lessons we have learned from ethanol production. If more of our ethanol plants were locally owned, we would be retaining more dollars in Nebraska and in our communities. There has been a huge growth in and greater demand for ethanol in recent years. Similarly, we are seeing a huge growth and increased demand for wind energy production in this country and throughout the world. Not only is Nebraska one of the top ethanol-producing states, Nebraska is also blessed with tremendous wind energy potential and thus is positioned to develop enough energy to not only contribute to local energy needs, but to also export wind energy. There is an additional opportunity for job creation in Nebraska related to wind energy. We need to be actively working to

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attract wind turbine manufacturers, which create hundreds of jobs. Iowa is a great example in this area. According to a recent newspaper article, Iowa has attracted three major wind turbine manufacturers in just the past two years, which is creating between 400 and 500 new jobs just across the river. According to Iowa Governor Chet Culver, Iowa is seeking to become a central manufacturing and distribution point for wind turbines in North America. One of the reasons Iowa has been able to attract these manufacturers is because the state ranks third in the nation in output of wind energy, with 1,000 wind turbines in operation, producing more than 1,000 megawatts of power currently. We need to encourage and even demand that our public power entities build partnerships with C-BED projects and support those Nebraska citizens who seek to develop wind energy in Nebraska. I did hand out a letter that I was asked to make a part of the record. That letter is in support and it is from Michael Shonka, S-h-o-n-k-a M-i-c-h-a-e-l. And he is the owner of Solar Heat and Electric in Omaha. With that, Madam Chair, I would be happy to entertain any questions. [LR76]

SENATOR DUBAS: Thank you, Senator Preister. Are there any questions from the committee? [LR76]

SENATOR DIERKS: I might...name the three types of electric energy companies that...processes that take place in Nebraska again. [LR76]

SENATOR PREISTER: The three models? [LR76]

SENATOR DIERKS: Yeah. [LR76]

SENATOR PREISTER: One is the ownership directly by the public power utilities themselves, so their direct ownership is one. Then the kind of hybrid model, I guess, is ownership by a private out-of-state wind developer. And then the third is the C-BED project. [LR76]

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SENATOR DIERKS: Okay. [LR76]

SENATOR PREISTER: So the utilities themselves, the C-BED, and then private...
[LR76]

SENATOR DIERKS: Okay. Thanks, Don. [LR76]

SENATOR PREISTER: You're welcome, Senator Dierks. I would also mention at the last hearing in Norfolk I would remind you did get a copy of the GAO study, I believe. And you should still have that so I won't repeat that. I'll just highlight one quote from it. It says: wind power benefits rural communities by providing additional investment, employment opportunities, and tax revenues. But that's a pretty good study. You also were given out the--I believe John Hansen gave this out--wind energy for rural economic development. And you should have copies of that, which also highlight some of the economic potential of wind for our rural communities; as well the...Rick Leonard has given out some information to the committee. [LR76]

SENATOR DUBAS: Senator Karpisek. [LR76]

SENATOR KARPISEK Thank you, Senator Dubas. Senator Preister, what about just individuals owning, for their own use, wind generation and net metering? Or are we getting into a different animal? [LR76]

SENATOR PREISTER: It's... Senator Karpisek, it's related, but that wouldn't be this type of model where...yes, if they set up their own generator and they were able to sell it back out to the utility, that would be very similar. It would be related. We don't actually have net metering, but the individual generator can negotiate with the local utility, and they can develop a contract that they use. In most instances it's not that beneficial to the generator so they're not generating real revenue or income as they would if they had land payments, rent payments from the turbines that were set up on their land by

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another developer. So it...you could count it as a fourth type of model. But it's a little bit different category, I would say. [LR76]

SENATOR KARPISEK: Okay. Thank you. Thank you, Senator Dubas. [LR76]

SENATOR DUBAS: Any other questions? Thank you, Senator Preister. [LR76]

SENATOR PREISTER: Thank you. [LR76]

SENATOR DUBAS Next testifier. Don't be shy. I won't be like Senator Erdman though, I won't actually call on you unless no one absolutely comes forward. (Laughter) [LR76]

ROBERT BYRNES: Good morning, Senator Dubas and members of the Ag Committee. My name is Robert Byrnes, spelled B-y-r-n-e-s. And I'm here to thank Senator Preister, it's always a pleasure to come before committee members here in the Capitol and discuss renewable energy. But at the same time it's kind of like mixed emotions for me that we're still debating whether there is economic development from wind. It seems like it's a no-brainer. And we prefer to just kind of discuss it instead of build it. So I have kind of mixed feelings in that regard, but I am happy to be here. I would like to kind of break out--it kind of goes to your question, your comment, Senator--I live in two worlds: small and big when it comes to renewable energy. That holds true for biodiesel and ethanol and wind as well. So I'd like to just briefly bring in some of that discussion on small versus big, because they are two different worlds. Looking at economic development aspects of small wind are genuine indeed (sic). Certainly anybody with a small wind turbine in central Nebraska during the ice storms with some sort of power storage derived from that source would have certainly appreciated it. This is one of the great benefits of decentralized production, and certainly small wind falls into that category. I have a small wind turbine on our farm that's been off-grid several years. And, you know, power outages...I mean, I hear about them, but I don't experience them. So small wind has benefits to landowners in that regard, whether or not they're making money off the

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utility. And that's not really the goal. I think a net-metering program is not designed to make a small wind turbine owner any money, certainly with a publicly owned system it would be intuitively counterproductive. But there are benefits there in decentralized production. Small businesses, as we heard from Mike Shonka of Solar Heat and Electric...there are several other small businesses that have developed in Nebraska along these lines. I had the time, I had an opportunity to visit with several of them during State Fair. And it's like...it's languishing. You have people with strong desire and motivation to do these things in the state of Nebraska, yet the environment is not conducive to this. And there's a number of reasons for that. You have small businesses just like waiting in the wings to grow. And they're spread out with...Jon Dixon...we got actually, it's two here in Lincoln, one in Omaha, I have heard of others in central and western Nebraska. There is one in western Nebraska, actually, I visited with. We try to promote those through the Nebraska Renewable Energy Association as best we can. But until things change here in the State Capitol, they will sit idle. Tower components can be made here. We're sourcing wind turbines from overseas. But we do strive to make the towers and any other components that are available here in the state of Nebraska through our manufacturing base. That has obvious advantages. And then also on small wind systems, I'd like to just expand the discussion a little bit. When we're talking about wind energy, we're talking about renewable electricity. Okay? Renewable electricity does not just come from a wind turbine. It also comes from solar power. Okay? I think it's commonly known that we're number six in wind in the nation. But it is not so commonly known that we're number nine in solar. Solar energy has a tremendous potential, both thermal-solar, PV-solar...in all of its forms. That has a tremendous opportunity in Nebraska. It needs to be part of this discussion. We don't have solar-power manufacturing, we don't have anything in that regard. But it should be included in the discussion of renewable electricity. And then also methane generation systems...methane generation systems, although other things can be done with the output gas, most typically it is converted to renewable electricity. Renewable electricity produced through methane digestion of animal waste has tremendous economic development opportunities for our ag sector. Just here, recently, in West Point,

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Nebraska, a hog confinement was shut down despite meeting all requirements for NDEQ, all planning requirements that were required of them to meet. Everything was done; the i's were dotted, the t's were crossed. But odor issues, perceived odor issues caused the demise of that project. If we are going to grow and continue to grow our livestock industry, to eat the DDGs and do all the other things that are part of the energy cycle here in the state, we need to promote things like methane digestion so these odor problems go away. I had a discussion with Danny Kluthe, he was unable to be here today, he's loading hogs, as a good pig farmer would be. But he is very concerned about his inability to cash flow the project that he has right now. He's under tremendous pressure in trying to cash flow this project. He's got a buyback rate, which is typical, 2 cents going out, 8 cents coming in. He produces more than he can consume and still has an electric bill. Okay? Methane digestion systems should be part of the renewable electricity discussion and have a tremendous opportunity not only to sustain but to grow our ag industry. We'll have another discussion on carbon credits this afternoon.

Currently small wind owners have no access to green tags. Danny Kluthe's green tags, as part of his contractual obligations with NPPD, he has no rights to his own green tags. Green tags are a coming industry; they are growing by leaps and bounds and present a tremendous opportunity where a renewable electricity generator may actually indeed make money, but not at the utilities' expense. But at...these are funds that would come from private industry. It's currently a discretionary market. These would be above and beyond and actually may--not so much for the small guy, but for the larger systems--really enhance the profitability of these. And that's all money coming into Nebraska. Currently the RFP issued by NPPD for 100-megawatt wind turbines requires that these green tags be provided to NPPD, not the producer. On big wind...oh, and by the way, green tags at 2.5 cents, Danny does have an advantage over other renewable electricity producers in the state of Nebraska. He does get a portion of the green tag value at 2.5 cents a kilowatt. Current market rates could provide him in excess of that, but he's unable to capitalize on that. On the big wind, I don't work as closely with big wind as I do with smaller systems. But I would like to just run down just a few on a comparative basis. I was able to attend a power summit last year with NDEQ and NPPD

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and we had an NPP representative discuss the wind energy project in Kimball as well as the new Hastings coal plant. It was kind of a broad-spectrum view of energy production in Nebraska. Given that new cost, given that the installed cost for these systems is approximately the same, according to that information, slightly over \$1,000 a kilowatt, installed cost for a wind farm or a coal plant...okay? That being about equivalent, I wanted to run down kind of the advantages and disadvantages of each technology looking forward, because we can't make decisions based on today. We have to make decisions today based on what we foresee for tomorrow, in my estimation. Once a wind energy farm is built, there is no fuel cost. The wind blows, and in Nebraska it blows quite a bit. Wind energy is environmentally friendly. There are some discussions, obviously, regarding placement of wind turbines through bird migratory routes. Obvious things like that can be avoided up front. But wind in general has no carbon footprint, has no environmentally adverse impacts. Wind energy in Nebraska uses Nebraska natural resources. These don't come out of state. They blow somewhere else too before they get here, but they're ours once they cross the border. Wind energy developments increase local tax bases; privately owned, citizen-owned projects in Nebraska increase local tax bases, and that money goes to county coffers. The green credits, again, add to the value this energy produces beyond the purchase amount. Wind is not getting any more expensive, that I know of. Okay? It seems to blow pretty good, pretty steady. There's also no water use associated with wind-derived electricity. On the other side, while our coal generating plants have done an excellent job in keeping down rates and providing firm power for our statewide grid, coal costs are going up. This is for sure. We've seen this and it will continue so. Coal consumption and coal power plants are not environmentally friendly. Mercury, sulfur, and other emissions have been well documented coming out of coal plants and the source of old carbon into our environment is also from a global-warming perspective not welcome. The coal that we're currently burning in Nebraska does not come from Nebraska. We are using another state's natural resources to derive our own power. Carbon taxes are just not a matter of if, it's a matter of when. Carbon taxes will significantly reduce the profitability of coal-generating power stations. There are no green tags--there's no such thing as a

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black tag--but there's no green tags associated with coal consumption for power production. The fuel to deliver this coal from distant coalfields is generally diesel on the rail. Diesel is not getting any cheaper that I'm aware of. I also live in a town on the rail that has the additional benefit of having a switching station right downtown. Our town is regularly sliced in half by coal trains parking while another one passes. Coal production is a large user of water. In fact, the new generating stations that are going up are not putting their surface-condensed or thermal loads to the rivers. They are using evaporative cooling towers, which take...you know, reject this heat to the atmosphere through the evaporation of water and are tremendous water consumers. I would say it's high time that we have...we join the other states in the Union that have an RPS, that set a goal that we need to have so much by a particular date. I know not everybody is a fan of that, but I think that we need to set a goal, an achievable goal. And I think last session the 10 percent by 2019...including conservation, goals would help to set the climate to help these things grow. That's all I have. [LR76]

SENATOR DUBAS: Thank you very much, Mr. Byrnes. Any questions from the committee? Senator Dierks. [LR76]

SENATOR DIERKS: Robert, would you give me just a brief primer on the green tag process? [LR76]

ROBERT BYRNES: Green tags are...is a discretionary market through...basically through the Chicago Climate Exchange, although there are a number of retail...there's other ways to get green tags besides through Chicago. Basically what it's doing...it's assigning a value...it's the private market...the private industry assigning a value to new carbon production that would, in a sense, replace old carbon production. Old carbon is defined as those carbon compounds that are derived by geologic processes, in other words: natural gas, coal, petroleum, and oil. These materials were formed over millions of years, they're not renewable in that sense. New carbon is the product of recent biological activity, consumption of new carbon materials like ag commodities, stover,

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wood, whatever, has no net increase of CO2 emissions in the environment. So the value that is placed on green tags at this time is a discretionary market but is increasing in value because companies will buy this, these green tags in place of the actual production. So they're incenting others to produce this and this is a verifiable, measurable process. And we'll talk more about this this afternoon, because there are some things happening in Nebraska in this regard. But a producer who is producing X many megawatts, this has an equivalent of X number of green tags...these green tags are given...kind of everything comes down to tons of carbon. Right now in the Chicago Climate Exchange a ton of carbon is \$4 a ton. So through these different renewable energy technologies, they're able to produce new carbon which would in a sense displace, somewhere in the system, this old carbon consumption. [LR76]

SENATOR DIERKS: Well good, thank you. [LR76]

SENATOR DUBAS: Other questions for Mr. Byrnes? Senator Preister. [LR76]

SENATOR PREISTER: Thank you for appearing today, Robert. I know you were busy with the State Fair when we had the hearing at Norfolk, so...you mentioned Danny Kluthe's operation. And I wasn't really clear, you said 2 cents in and 8 cents out, or the other...could you... [LR76]

ROBERT BYRNES: What the retail is, I say 8 cents, that's a typical retail after tax for a consumer. I think he might...he gets a better rate, potentially, than 8 cents. I'm not sure what his exact retail rate in...but the net billing system that we have is 2 cents out and then the retail in. And that will vary by location. [LR76]

SENATOR PREISTER: So when he uses electricity, he's paying roughly 8 cents per kilowatt-hour for that... [LR76]

ROBERT BYRNES: Right. [LR76]

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SENATOR PREISTER: But the amount that he generates, the entire amount, all goes back to the utility and they pay 2 cents for that. [LR76]

ROBERT BYRNES: That's correct. [LR76]

SENATOR PREISTER: Okay. So there's...that's the offset. [LR76]

ROBERT BYRNES: And he's got 80 kilowatt-hour production 24-7. He couldn't use all that power if he lit up all the Christmas lights in the county. But yet that imbalance is created through that...the net billing process. [LR76]

SENATOR PREISTER: Okay. I wanted to... [LR76]

ROBERT BYRNES: But methane digestion is really a really tremendous opportunity for Nebraska agriculture. [LR76]

SENATOR PREISTER: And you also mentioned the renewable portfolio standard. Is 10 percent, as we drafted it, realistic? Could we, in your view, do even more than that pretty comfortably? Is that about right? What are your thoughts? [LR76]

ROBERT BYRNES: Well my...to put it maybe in perspective, Nebraska is blessed with number six in wind, number nine in solar, geothermal to beat the band, and biomass top five. Okay? Ten percent by 2019 was the same goal set by Delaware. So I'm not aware, other than I know they got some pretty good chicken farms out there, but other than that I'm not sure they got a whole...they certainly ain't got any of those. And they're not top ten in anything. I think we could triple that goal realistically without really breaking a sweat. [LR76]

SENATOR PREISTER: Okay. Thank you. [LR76]

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SENATOR DUBAS: Other questions? Senator Dierks. [LR76]

SENATOR DIERKS: You mentioned something about the cost of coal-fired plants increasing. Do you have any figures on that, Robert? [LR76]

ROBERT BYRNES: Yeah, I can provide that information. [LR76]

SENATOR DIERKS: Okay. [LR76]

ROBERT BYRNES: Sure. The coal cost is going up. The coal itself is going up. The cost of the coal power plant has gone up because of emissions requirements. And that's...I know...I don't know if we're seeing that so much here, but I know in a lot of states impending emissions controls have caused a boom in coal construction to get in before these emissions controls get into place in states like Texas. [LR76]

SENATOR DIERKS: Well, I had heard recently that the railroads have had to increase their charges for bringing coal in, too, pretty sizable increases are what I heard. [LR76]

ROBERT BYRNES: Yeah. We're exposed to that because the coal comes from somewhere else. [LR76]

SENATOR DIERKS: Yeah [LR76]

ROBERT BYRNES: And they're running on diesel fuel, and you know, like I said, all these old carbon products are going to be going for a whole host of reasons. But I think the day will come where we'll look back at \$3 fuel as the good old days. [LR76]

SENATOR DIERKS: Thanks for coming, Robert. [LR76]

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ROBERT BYRNES: Yeah. Thank you. [LR76]

SENATOR DUBAS: Thank you. Next testifier. [LR76]

KEN WINSTON: Good morning. I will hand this in after I testify. I had forgotten I needed to complete something like that, so...good morning, my name is Ken Winston. I'm the lobbyist for the Nebraska chapter of the Sierra Club and I'm appearing on behalf of the Sierra Club to encourage the committee to support efforts to increase renewable energy for rural economic development purposes. And I'm going to reiterate a couple of the points that Mr. Byrnes made, which is that Nebraska has tremendous renewable energy potential. And I guess the reason I'm mentioning that is because of the fact that it's having that potential and not seeing it tapped is somewhat frustrating when you look out and you see the charts that say that Nebraska has the sixth best wind potential in the country and the ninth best solar potential. And there's very little use that's being made of that, particularly in comparison to some of our neighboring states and some of the other states in the Midwest. Less than 1 percent of our energy sources are from wind at the present time. About 77 megawatts of energy are developed through wind at the present time. And the fact that we're lagging significantly behind the other states...I don't have the exact figures for Iowa and Minnesota, but they're both in the neighborhood of 900 megawatts of electricity that's produced through wind. And what's even more frustrating is the fact that not only are we lagging behind but we're falling...if current plans go according to the way they're being proposed, we'll fall even further behind our neighbors. So it isn't a matter of catching up, we'll be further behind after the current things that are being proposed are carried out. Iowa is planning to put in another 300 megawatts of wind in the next two years. There's a proposal to build 1,000 megawatts in Kansas. I don't know how far along that is, whether it's just at the proposal stage, but there is a proposal for 1,000 megawatts in Kansas. I mean, I'm not saying that's going to happen, but there are at least proposals to build that much wind energy in Kansas. And Minnesota enacted a 25 percent renewable energy standard by the year 2025 just this last spring. And they appear to believe that it's realistic and their private utilities

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appear to be, well, they're not raising a fuss and saying they can't meet it. They're saying, sure, we can do that. And I do appreciate the fact that NPPD put out an RFP to produce 100 megawatts of wind in the next two years. And I think that's significant, and they deserve to be applauded for that effort. However, the fact is that if we're going to advance by smaller increments than our neighbors, we're going to continue to fall further behind. And by saying that we're falling behind, I don't want to think of this just like...in terms of how our football team plays on Saturday...even though I'm not pleased with the way they've looked either. But...and I'm not trying to offer advice to Coach Callahan. Obviously that's his business. But just like all the other fans in the state I have my own opinion. But the reason that I raise that is not just because we want to be number one--well, that would be great--but the reason...it's significant because the longer that we wait the more costly it's going to be for Nebraskans to get into the wind business. There's tremendous demand for turbines, the cost of steel is skyrocketing, in part because of the fact that China is using so much steel to meet American consumer demands. So the longer that we wait the more costly it gets and the harder it becomes for Nebraskans to be competitive in this market. So it's important for Nebraska to get into the business--and not in a foolhardy, head-over-heels way, but to do it in an intelligent way so that Nebraska citizens can take advantage of the opportunities. And I don't have to tell any of you about what's happening in rural Nebraska. I guess I will just tell a little bit of a story about going out to my hometown this summer and just looking around the main street, in a town that had 1,200 people 30 years ago is now down to 900 people. And I know that's actually holding pretty steady compared to some towns. But their high school, it used to be a vibrant high school, a vibrant rivalry with the neighboring town. Well, now they're merged with the neighboring town. And I'm sure that's the story in lots of communities. The high schools are closing. I mean it's a matter of reality. It's a matter of necessity. But it would be nice if these towns weren't dwindling with greying populations, if we could bring some economic vitality back to these rural communities. And renewable energy is one way of making that happen. The final point that I wanted to make about renewable energy and the economic opportunities that are there is...I also don't...probably don't need to remind you. I know this is Senator Dierks's

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priority bill, but the Legislature passed LB629 last spring. And that bill provided...that set in place a mechanism for community-based economic development projects. And that is intended to be a way of keeping money in the state of Nebraska through renewable energy development. And that's one of the things that is important about all this, is it doesn't make sense to develop this energy and then have all of the development funds, the economic benefits be siphoned off by out-of-state developers. So if we have a mechanism--and we do--that was passed last spring to use the C-BED model, that's the best way of ensuring that the money stays with local investors, that local investors can take advantage of the federal tax credits. It's a way of using our public power...of allowing that process to work through our public power system. And in so doing it can help keep the economic benefits in the state, within the local communities, and to provide a source of revenue to help keep main street stores open. I mean, I know it's not going to solve all of the problems. It's not a panacea. But anything that can help keep some money in rural Nebraska, that can help regenerate local...that can generate funds, revenue for local communities, that's money that helps keep the stores open, helps keep people buying homes and raising families and keeping schools open. And I think that it's incumbent upon whoever is involved with public policy, as you all are, to see that that kind of effort goes forward. And that would conclude my testimony. I'd be glad to answer questions to the extent that I am able. [LR76]

SENATOR DUBAS: Thank you, Ken. Any questions from the committee? Senator Dierks. [LR76]

SENATOR DIERKS: Well, I don't really have a question. I just wanted to comment a little bit, Ken, on your observations of the economic development potential for rural Nebraska with the advent of C-BED projects. And this was one of the main reasons we brought the C-BED project. We thought that it was an opportunity to provide energy and to provide economic development for individuals in Nebraska. And that's the way it is set up. We don't think we were wrong; we think we were right. We've run into a few problems along the way. We really need to have some, I think, more cooperation with

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the power industry and I don't think we've had that. I guess I'm very disappointed in the fact that we have been hammered a little bit in our process. And I still think the possibility is there for an excellent opportunity for economic development in rural Nebraska. And I think that's what we have to go for. And I don't think anything should stand in our way. When we let greed enter in on this thing, then we probably lose some of our impetus. And I think greed has gotten into the process a little bit. Thank you.
[LR76]

KEN WINSTON: If I can respond just briefly... [LR76]

SENATOR DIERKS: Sure. [LR76]

KEN WINSTON: I mean I won't respond to everything you said, because obviously you spoke it very eloquently. But there were three reasons that the Sierra Club supported LB629. The first was we wanted to see more renewable energy. The second was we wanted to see public power protected. And then the third one was we wanted to see rural economic development. And the more that you could keep funds, the economic benefits of the project within the state of Nebraska, the better. And that appeared to be the best way of doing that that we were aware of. And, I mean, I don't know if that's the exclusive way that this needs to be done, but it appeared to be the best model that we were aware of at that time. And we certainly appreciate your leadership on that issue.
[LR76]

SENATOR DIERKS: Thanks, Ken. [LR76]

SENATOR DUBAS: Any other questions? Senator Preister. [LR76]

SENATOR PREISTER: Ken, you touched on what we had talked about in terms of potential economic development. A case in point would be Valley Manufacturing, who started building towers and self-erecting for the turbines, and really wanted to do a lot of

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manufacturing. But we don't have many turbines going up. It just hasn't worked out. It's been very frustrating for them. It's an example of a manufacturing that isn't necessarily rural, but that's kind of stifled, as Robert Byrnes talked about before. In Iowa, because there is emphasis, because they are supporting manufacturing, they're going to have three major manufacturing processes started in the state. Do you think that that relates to the government support, the utility support, the community support for renewables that those manufacturers would come there? And do you think they would potentially come here as well if we showed the same level of support? [LR76]

KEN WINSTON: Sure, I mean, I can think of numerous examples where the government...where changes in policy have facilitated economic development. And you know, whether you like LB775 or not, I'm not particularly a big fan of it, but there's a number of businesses that say, if we didn't have tax incentives we wouldn't be here. And similarly, if there aren't incentives for the production of renewable energy, if there isn't some reason why it's going to happen here then those businesses probably aren't going to locate here. And if you've got turbines being erected in the Sandhills, then it's more likely that there's going to be businesses that come to the state to build those turbines, because there will be a market there. And, you know, it's Economics 101: if there's demand, the supply will follow. And so it makes a lot of sense that if we can provide some incentives, some opportunities for renewable energy development then there's going to be more economic opportunities: manufacturing, financing, building, maintaining, all those things will flow from that. In addition to if there's some capital investments that can come back to Nebraska citizens, that will also hopefully be invested in the communities as well. [LR76]

SENATOR PREISTER: Thank you. [LR76]

SENATOR DUBAS: Other questions? Thank you, Ken. [LR76]

KEN WINSTON: Thank you. [LR76]

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SENATOR DUBAS: Next testifier? [LR76]

MARC MATHEWS: (Exhibit 2) Good morning, ladies and gentlemen. My name is Marc Mathews. I'm the chief operating officer for SWT Energy, here in Lincoln, Nebraska. We... [LR76]

SENATOR DUBAS Excuse me, Marc, could we get you to spell your name, please? [LR76]

MARC MATHEWS M-a-r-c M-a-t-h-e-w-s. [LR76]

SENATOR DUBAS Thank you. [LR76]

MARC MATHEWS We provide 100 percent pollution-free alternative energy systems, primarily wind-related, solar-thermal, as well as solar-electric photovoltaic systems. And I would like to keep this very simple. We have a unique perspective. We're out there meeting with potential customers, both on commercial end and residential applications. I'm not exaggerating these numbers. We meet with persons, owners, homeowners, business owners. Ninety-nine percent of everyone that we meet would love to sign on the dotted line and have us install yesterday. How many go forward? One to two, and again, I am not exaggerating. Ninety-nine percent would like it; one to two move forward. I have a stack this high on my desk, says: when you get net metering, when you have state incentives, give us a call. So what do we have to compare with here in the state of Nebraska? Our neighbors to the west in Colorado provide, aside from federal incentives, as much as 50 percent to 55 percent to cover some of the systems which I have named, primarily solar-electric, and are presently moving into wind energy also. And that's basically what I wanted to say. [LR76]

SENATOR DUBAS: Any questions? Senator Preister. [LR76]

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SENATOR PREISTER: So, Mr. Mathews, your company helps people to set up and begin the operation of their own generators for their own use, plus some excess sales, or is it for more than that or different than that? [LR76]

MARC MATHEWS: Yes, we set up their own basically, utility company, for themselves, to generate what they need or in excess. [LR76]

SENATOR PREISTER: Okay. And you have access to various types of generators. So they go to you when they need to have technical or professional information to do that? [LR76]

MARC MATHEWS: That is correct. [LR76]

SENATOR PREISTER: Okay. Good. Thank you. [LR76]

MARC MATHEWS: You're welcome. [LR76]

SENATOR DUBAS: Senator Karpisek. [LR76]

SENATOR KARPISEK: Thank you. You said Colorado, 50 percent to 55 percent they reimburse the price of the unit? [LR76]

MARC MATHEWS: That is correct. I have handouts with me, if you would like to see some of those numbers. [LR76]

SENATOR KARPISEK: Yeah, that'd be great. Do you think one or the other would do it, if we could do net metering or some sort of rebate? Or do you think it'd have to be both? [LR76]

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MARC MATHEWS: In my humble opinion, the net metering must be done, sooner than later. If you look at a picture of the Union as a whole, you can put every state in red that has net metering laws, and there's only, I believe, in August, it was 42 out of the 50 states have net metering. Nebraska is one of the last to come around. We have to come around. As far as why the potential customer...and a potential customer is any homeowner and any business owner, as well as anybody who lives and works in Nebraska. But the bottom line for those people is the state incentives. Who is going to help me pay for this? I want it in but I do need some help. So both is the answer. [LR76]

SENATOR KARPISEK: And I think part of the reason, I'm sure we'll hear from public power, is that we are the public power state. So a little bit, if we give incentives to do that, we're shooting our public power in the foot, so...I mean, I'm thinking I'm going to hear that, I guess I should say. (Laughter) I agree with you. But since we are unique in our public power, I'm sure that is one reason why we haven't but thank you. We hear a lot of things: well, we need to do this, but we can't. But we don't hear very often how to do it, so I think at least you're telling us what we do need to do. And I appreciate that. Do you...sorry, do you have some of those handouts? Do you have enough to pass out? [LR76]

MARC MATHEWS: Yes, sir, I do. [LR76]

SENATOR KARPISEK: Could you grab those? [LR76]

MARC MATHEWS: And as a rebuttal, if I may, as far as the public utilities, if there is a displacement of a particular percentage, so that homeowners and business owners can have, effectively, their own utility company, all that does is remove some of the burden of the grid that exists now here in Nebraska. So that if a worst-case scenario occurs, then the grid is still going to exist, the public powers are still going to be there, but it actually aids the situation so that if the grid goes down it won't be as long, there won't be as much peak demand. So in effect, it is a win-win situation when the state

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incentives and net metering comes along. [LR76]

SENATOR KARPISEK Thank you. [LR76]

SENATOR DUBAS: If you want to give your handouts to the page, she'll get them to the committee members. Thank you. [LR76]

SENATOR KARPISEK: I think Senator Preister has a... [LR76]

SENATOR DUBAS Oops, excuse me, Senator Preister, another question. [LR76]

SENATOR PREISTER: Marc, I don't know if you're aware, we do have some incentives. We have a tax credit that the Legislature passed two years ago. It may not have applied in many cases, but this year we removed the ceiling on that, so it's available for any size. So you might want to check on that, it might be helpful in some cases. [LR76]

MARC MATHEWS: Thank you, Senator. [LR76]

SENATOR PREISTER: You're welcome. [LR76]

SENATOR DUBAS: Any other questions? Thank you, Mr. Mathews. [LR76]

MARC MATHEWS: Thank you. [LR76]

JOHN C. McCLURE: Good morning Chairman Dubas, members of the committee. My name is John McClure, J-o-h-n M-c-C-l-u-r-e. I'm vice president and general counsel for Nebraska Public Power District. I'm here today representing the Nebraska Power Association, which was established in 1980. The NPA is a voluntary association of all segments of Nebraska's consumer-owned electric utility industry. I'd like to point out that the industry in this state, which is unique, being all consumer-owned utilities, has had

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two areas of primary focus throughout its history: low cost and reliability. And I think we've demonstrated that, looking at average revenue per kilowatt-hour for electricity charges throughout the nation. The latest numbers I've seen from 2006 indicate that Nebraska has the sixth lowest electric costs in the country, when you look at average cost per kilowatt-hour for all retail electricity sold. The Nebraska Power Association asked that I provide some summary statistics and information on the economic benefits that have arisen from the utilities' various renewable energy wind resources. A major portion of Nebraska's renewable energy, other than hydro, comes from wind energy. The largest is NPPD's Ainsworth wind project, with 36 turbines, constituting a total of 60 megawatts of generation. Now that's enough energy to serve 19,000 homes, the average needs, electric needs, of 19,000 homes, assuming we're getting the 60 megawatts. This morning at 7:30 I looked on our system to see what the status of Ainsworth was. It's 60 megawatts of capacity; it was producing 6 megawatts, because that's one of the realities of the wind. It's not always there. We have to deal with that, and that's one of the challenges. As previous witnesses have indicated, there are some great attributes of wind. It's emission-free, it's a free fuel source, and those are positives. But you do have to deal with the intermittency of wind, and that is a challenge at times, especially as you get larger wind projects that you start to depend upon. Also the municipal energy authority of Nebraska has a project at Kimball, seven turbines with a total of 10.5 megawatts. Lincoln has two wind turbines northeast of town, and OPPD has one near Valley. Examples of the economic benefits would include the MEAN project at Kimball built in 2002. During construction there were approximately 30 people involved with that, and the cost of that project was about \$14 million. Construction time was about six months, and the components were not domestic except for blades and towers, which were manufactured in the Dakotas. Maintenance of a wind project is, at that facility, performed by a single technician who actually is located in Cheyenne, Wyoming. Payments to landowners for land rights are approximately \$14,000 per year. At the Ainsworth project, which has participation from several Nebraska public power entities...that was constructed in 2005 for a cost of about \$81 million. There was a maximum of 92 workers on the site during the construction. The components for that

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facility came from Denmark, England, North Dakota, and Canada. Presently NPPD has two full-time employees assigned to the facility. We are winding up the original warranty and maintenance contract with the party who built the site, and when that expires we will be adding a few additional technicians to help support that facility. Certainly economic benefits are much higher during construction; they're smaller during operation, and somewhat higher during maintenance times; and specifically the benefits to the surrounding community from an infusion of workers. Landowner payments for the Ainsworth project are in the \$2,000 to \$3,000 per turbine per year range. Economic development potential for wind generation is similar to other construction projects, such as wind...such as new or additions to schools, hospitals, or retail businesses. Benefits are highest during construction, with generally much smaller benefits for operation. Wind generation normally will require about one technician for every six turbines. Experienced technicians may earn as much as \$40,000 to \$50,000 per year. Recently there was a new manufacturing facility announced in my hometown of Columbus, Nebraska. The company will have a plant producing 80-meter wind turbines. They anticipate employing approximately 100 people, and expect to produce 300 towers per year. Sunday morning I was out running an errand before church and I saw wind turbines coming through Columbus on Highway 81. They were, you know these heavy, large-load...for the blades, not for the turbines, the blades...and I thought, it would be great if we could get some of those manufactured in Nebraska. And I think that's something that should be looked at from an economic development opportunity. Nebraska has generally had success in economic development, when low electric power rates were important to the company, either wanting to come here or to expand in Nebraska. It's important to keep our rates lower than others' in the region in order to continue with this success. Now there have been a number of comments made, and I anticipate you may have a few questions. But I'd like to add just a few remarks. First and foremost, I want to commend you for this hearing. I think it's extremely important that you, as the policymakers for the state of Nebraska, are looking into the future. There is no doubt that renewable energy and in particular, generation of electricity with renewable technologies, is going to become increasingly important in the future. It's very

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important in that policy development for you, as our state senators, to be informed on what are the consequences, what are the underlying facts. And I don't think it probably comes as a surprise to you that in some instances, information that's being put out on the subject may not always be accurate. And we all need to work from fact-informed perspectives. It was mentioned by an earlier speaker that costs are increasing for generation. They're increasing for coal, fuel prices are going up, the price of materials is going up, and the price of facilities and components for plants is going up. It's true for coal-fired plants, it's true for wind plants. An earlier witness indicated that wind and coal facilities cost about \$1,000 a kW. Well, those days are long behind us. Today a coal-fired plant probably costs over \$2,000 a kilowatt, or \$2 million a megawatt. Unfortunately, wind generation has done the same thing. I think a rule of thumb today is that a wind project is probably around \$2,000 a kW or \$2,000 (sic) a megawatt. And I anticipate with the increasing demand for those machines worldwide, with the increasing competition for steel, for copper, for other materials that are being demanded throughout the global economy, especially in China, that we should anticipate that costs are going to continue to rise. And again, that's why I say, a great economic development opportunity for Nebraska may be to bring more manufacturing associated with this industry into the state. And one of the reasons for that is this region certainly has significant wind potential, not just Nebraska, but the Dakotas and Kansas. And if we can produce those components here, we can decrease the shipping costs. And those transportation costs for these major components can be significant. So I hope the policy in the state continues to pursue that opportunity. With that, I would make one more comment about our Ainsworth project. I talked about today it was producing 6 megawatts out of 60. For the month, we've produced at 27 percent of our capability, again, in large part driven by wind, but in part driven by equipment. There is no perfect way to produce electricity. All machines--and those of you who are close to agriculture recognize the frustrations that happen when a machine doesn't work when you expect it to--we've had some experiences with our wind project that I think people should be aware of. We are basically having to repair every blade on the 36 turbines, 3 blades apiece, 108 blades total. We've had cracking on a number of those blades that has

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caused us to have to reduce generation and to sometimes shut down the machines. Presently we have one turbine shut down due to a gearbox problem. We have another shut down due to a generator problem. And I simply want to point out that whether it's wind or coal or natural gas or nuclear or hydropower, there's always machinery involved and there's no perfect technology. There's no technology that runs 100 percent of the time. We are excited about our Ainsworth project. In its first year of operation it had a capacity factor of nearly 43 percent, which is an outstanding capacity for a wind generation facility. We understand the national average has been around 29 percent. So we think that's excellent. A year to date, we are at 35 percent. Part of that is due to equipment problems, part of that is the summertime is the lowest winds generally, so you get less generation in the summer. That has been our experience. And you get more wind generation later in the fall and throughout the winter. And so we hope that average starts moving up as equipment is being repaired and as wind speeds pick up as we get later into the year. With that, I will conclude my remarks. And I would be happy to try to answer any questions you may have. [LR76]

SENATOR DUBAS: Thank you, John. Senator Preister. [LR76]

SENATOR PREISTER: John, I appreciate your testimony and also your commitment to trying to bring manufacturers here. Is that something that NPPD is willing to work on? [LR76]

JOHN C. McCLURE: Oh, absolutely. We have a...as I hope several of you, or all of you are aware, NPPD and the public power industry in Nebraska has a strong commitment to economic development. We have a substantial commitment, we have a number of personnel who are located throughout the state of Nebraska who are committed to attracting, retaining, and expanding businesses in Nebraska. The electric utility industry has often focused on its low electric rates as an inducement for bringing certain industries to the state. Nucor Steel is a great example. Nucor Steel is a huge consumer of electricity. They want to be somewhere where it's reliable and where it's low cost.

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And Nucor Steel's plan outside of Norfolk is...creates I don't know how many jobs, but they're well-paying jobs and I think they're very well-respected in the community. The plastics industry--and when I say the plastics industry, that could include, you know, molding, other things related to healthcare products that involve plastics--those are frequently high electricity users. We have a tremendous industry in Nebraska with Becton, Dickinson in Holdrege and Broken Bow and Columbus. And they manufacture a lot of essential medical equipment. They employ thousands of people in this state. And again, I think in part, they're here because of what the electric industry has done. I use those examples, there could be examples from every other corner of the state, based on that local utility's electric service and commitment to attracting businesses. But yes, as I said at the beginning, renewable energy in the electricity segment is growing. And we need to start producing more machines. Most of the machines that are made, the actual generators, are being manufactured outside the U.S. I'm not...there might be one or two in the U.S., but they might even be international companies. [LR76]

SENATOR PREISTER: Oh, as I see our Governor going on trade missions, I never hear about attracting things like the manufacturers of the blades or the turbines. I don't see any actual commitment to that, but the Governor in Iowa is doing that, and has just in two years attracted three manufactures. So maybe working with the Governor on the trade missions...or we could focus on those manufacturers, I think we could get them here. I agree with you, the potential is not just in Nebraska but the region. Throughout the Great Plains area we've got tremendous wind capacity. And it just makes sense to do those manufacturing things here, rather than export those dollars to buy them. So I appreciate your saying that you're willing to do that. Hopefully we can find ways where we actually put it into the attracting process, as Iowa has done, rather than attracting other types of jobs. [LR76]

JOHN C. McCLURE: And I don't know all the things that Iowa has done. But I do know, specifically in the wind area, and this is come up from previous witnesses, Iowa has had incentives, state-provided incentives that have enhanced wind development. In addition,

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there was a lot of comment earlier about how Nebraska lags surrounding states. And that is true. However, there are several reasons for that, but let me focus on one, and that's federal tax policy. Federal tax policy offers a substantial subsidy to private corporations to build wind, currently \$19 a megawatt-hour, or 1.9 cents a kilowatt-hour. That's huge. Let me put that in perspective. The Ainsworth wind project is about \$34 a megawatt-hour. If we got the federal tax subsidy for that, it would drop it to about \$15 a megawatt-hour. That's how big that subsidy is. Now unfortunately, you can't acquire machines for the price we acquired Ainsworth. Ainsworth was about \$1,350 a kilowatt, or \$1.3 million per megawatt of capacity. Today that's up around \$2 million, again, just because of increasing demand and increasing cost of materials. [LR76]

SENATOR PREISTER: And I recognize that public power is at a disadvantage to get some of those federal credits. But you are able to get some. Are the...or do you know what we're getting for the green tags in Nebraska? How much NPPD has been generating? [LR76]

JOHN C. McCLURE: The green tags, the last I saw, there was...the market is becoming stronger. But the market that we were selling into, I think, was in the \$1.50-range for...and we were selling on an annual basis, those green tags, so \$1.50 a megawatt-hour. [LR76]

SENATOR PREISTER: And the total, or maybe if you don't have that off the top of your head you could let me know later. [LR76]

JOHN C. McCLURE: I think the total generation at Ainsworth...I'd have to check the number on that. I don't want to give you a number. But it's not producing a large sum of money. But I can follow up and get you that number. [LR76]

SENATOR PREISTER: Okay. And we did pass some tax credits and we did remove the ceiling that we had on the amount that you had to generate in order to get those. So

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there's some incentives. What other incentives would you suggest that--we can't change the federal, but we have control at the state level--what incentives would you suggest at the state level? [LR76]

JOHN C. McCLURE: Well, I think we need to look at incentives...that if the policy of the state is to move this forward, and as one of the early speakers noted, there's...it was you, Senator, had three basic models: public power owning the generation equipment, a private entity owning it, or a C-BED model. And a C-BED model, and I encourage all of you to continue to understand, I certainly don't fully understand the C-BED model. I think there may be some misperceptions about that and who really has the money in it, who gets the benefits out of it, and how that all works. And I think that may be something for further understanding. It's my understanding, for example, that it's unlikely that local investors in Nebraska, unless they're extremely wealthy, will have any use for the federal production tax credit. So they will go to a company that can use those. It could be someone like John Deere, who has invested in C-BED projects. It could be another private wind developer, a major company that does these, who has an appetite for those tax credits. They get...they make a substantial investment in the first ten years of the project. They get the tax credits. They get a substantial chunk of the revenue flow. And then, as I generally understand these, the local investors may only have a small financial stake in the first ten years. After ten years, when the tax credits have expired, when the accelerated depreciation has been used up, then the local investors will own all of it. [LR76]

SENATOR PREISTER: Those, again, are federal. I'm just looking for some... [LR76]

JOHN C. McCLURE: Yes, those are federal. [LR76]

SENATOR PREISTER: ...input on what we could do at the state level, what your suggestions would be. And then I guess, the next logical thing is, where do we get that money or where does it come from? [LR76]

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JOHN C. McCLURE: Incentive money, whether it's federal tax policy or state incentives, ultimately...generally, you know, comes from the broader public. Now there...it's taking dollars and using those to incentivize a certain type of behavior. And if the state of Nebraska wants public power to build more renewables, again, I think it should look at opportunities, whether it's sales tax...for example, I don't think if NPPD builds a wind project it gets any sales tax favor treatment. But if private investors in the state do that, they do get that kind of incentive. So we'd like to, at a minimum, see an equal incentive. That would be a further inducement for public power investment, because ultimately, when a public power entity does it, it's doing it for the benefit of all of its customers, which ultimately, when you take all the public power systems in the state, is all of our citizens. [LR76]

SENATOR PREISTER: So a sales tax credit for public power from general funds, is that... [LR76]

JOHN C. McCLURE: I don't know where you...you know, what buckets the money comes from. But I'm assuming that's where it would come from when you do a...some sort of a sales tax credit. It's coming out of that pot. [LR76]

SENATOR PREISTER: Okay. I'm just looking for suggestions, because I've been trying to come up with... [LR76]

JOHN C. McCLURE: And we'd be happy to try to come up with more ideas... [LR76]

SENATOR PREISTER Okay. If you have others I would welcome it. And our time is running short, so I'll just end with two other questions. Were there any transmission lines that had to be added for Ainsworth, because I know the cost of it was of a range, and it depended on what transmission would have to be added? And from what... [LR76]

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JOHN C. McCLURE: We were very fortunate. When we planned that facility, we were able to locate it, it is right on a 115 line, a 115-kV line. We basically used up all the capacity. We could get another 15 megawatts, but that's why we put it there, so we did not have to add transmission. And that is one of the challenges. You can't just put a major wind project down at any location, you have to have access to transmission. And you may spend \$20, \$30, \$40 million or more building transmission to add that generation source to the system. Again, that's one of those facts that needs to be understood as we have this policy discussion. [LR76]

SENATOR PREISTER: Okay, because I was under the impression that the application said 3.1 cents to...when you were applying to the Power Review Board for that site, and I thought Mr. Rich (phonetic) said it was about 4 cents that it was costing to generate now. And I was thinking maybe that was because transmission line, but there's about a penny difference there and I was trying to clarify that too. [LR76]

JOHN C. McCLURE: I guess I'll have to find out what that issue was and we'll get back to you. And if you're saying that when we proposed that project we estimated it at 3.1 cents... [LR76]

SENATOR PREISTER: Right. [LR76]

JOHN C. McCLURE: ...and now it's 4, we're not quite at 4 cents. Again, I think for right now we're about 3.4 cents a kilowatt-hour. [LR76]

SENATOR PREISTER: Okay. All right. I'll stop in the interest of time. [LR76]

SENATOR DUBAS: Other questions? Senator Dierks. [LR76]

SENATOR DIERKS: John, I want to ask you a few questions, but first I'd like to take the

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opportunity to thank you and Terry Worth (phonetic) for the trip to Ainsworth. It was very informative. I'm impressed with the whole setup out there, and I'm especially impressed with the people that are taking care of it for you, the people that do the on-spot work there. [LR76]

JOHN C. McCLURE: Thank you. [LR76]

SENATOR DIERKS: I thought they were very well-informed, they gave us a good presentation. And I also want to thank you for the birthday cake that day. (Laughter) [LR76]

JOHN C. McCLURE: We enjoyed it. [LR76]

SENATOR DIERKS: Regarding the NPPD's RFPs, how many of the seven responses that you've gotten were C-BED-type projects? [LR76]

JOHN C. McCLURE: More than one, and I...we've been really trying to keep that fairly confidential. I don't know if we've disclosed how many were C-BEDs, but there is more than one C-BED proposal. [LR76]

SENATOR DIERKS: When do you expect to announce NPPD's selections on those RFPs? [LR76]

JOHN C. McCLURE: We are working to narrow, narrow it now, look at what we think...where we think we have the best opportunities to put together a deal. And recognize this wasn't a firm bid proposal. This was something, this was a request for proposal to get us to further negotiations with the parties. It always, on something like this, takes negotiations. I expect we will narrow the field and engage in negotiations, and I expect us to have a recommendation before the end of the year. [LR76]

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SENATOR DIERKS: Does the Ainsworth plant ever produce over 60 megawatts?
[LR76]

JOHN C. McCLURE: No. [LR76]

SENATOR DIERKS: That's the maximum. [LR76]

JOHN C. McCLURE: That's the maximum capability of those machines. [LR76]

SENATOR DIERKS: Okay. I guess the other thing I wanted to visit with you a little bit about, there was some activity on your part several weeks ago in part of my district, trying to promote this wind energy process. And you had mentioned at those...someone from NPPD was at those...that particular meeting mentioned that there were three different types of wind energy models. And we talked about that with Senator Preister a little bit. And you had someone there to represent the private sector, and you had someone there to represent NPPD's interest, but who did you have to represent the C-BED concept? [LR76]

JOHN C. McCLURE: Senator, I'm not familiar with that meeting and so I can't speak to that issue. But I'd certainly be happy to, you know, we'll follow up with you on that.
[LR76]

SENATOR DIERKS: Okay. What's important to me, I think, that if we're going to go around and talk about these processes that C-BED should be prominent in the discussion. And if you need someone to help you do that, why, let me know, because I'll come and (inaudible). [LR76]

JOHN C. McCLURE: And I would be surprised...were you at the meeting? [LR76]

SENATOR DIERKS: No. [LR76]

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JOHN C. McCLURE: I would be surprised if we were there with any private developer. I just...that would come as a surprise to me. [LR76]

SENATOR DIERKS: Well, it wasn't a developer per se, but he was a person who had been buying wind rights and he was a private individual. [LR76]

JOHN C. McCLURE: Okay. That may be...we are out right now acquiring wind rights for additional studies, because again, our board is committed to expanding our presence with wind generation in the state. So we are studying sites right now, trying to get rights, and looking for options to be able to either build directly or transfer that to a C-BED or other developer. But I will follow up. Where was the meeting? [LR76]

SENATOR DIERKS: I'm thinking it was in Elgin... [LR76]

JOHN C. McCLURE: Okay. [LR76]

SENATOR DIERKS: ...or maybe Newman Grove, I don't remember for sure. [LR76]

JOHN C. McCLURE: Okay. I'll follow up with you and our staff and see what that was. [LR76]

SENATOR DIERKS: Well, the point I'm trying to get at, John, is we spent a tremendous amount of time last session with the power industry trying to develop what we thought was a program we all could accept and the C-BED concept. I thought we came to a pretty good agreement. So I guess I've been a little disappointed that in your promotion of wind energy stuff I didn't think that C-BED had been part of your effort. And I wish we could change that. [LR76]

JOHN C. McCLURE: Well, let me comment on that briefly, if I could. When we put out

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this RFP, we went to at least 30 newspapers in the state and put ads out that we were looking for developers, including C-BED developers, C-BED projects. Prior to the C-BED legislation passing, we had been approached by a number of other private developers, and you're well aware of one up in Holt County. Under federal law, we have an obligation to consider their desire to attach to our transmission system. We have an obligation under PURPA to buy from them if they come to us and say we want to do a PURPA contract with you. So we have certain federal obligations as a transmission owner that we have to follow, and I think there was probably some misunderstanding that we were ignoring C-BED. We weren't. We also had federal law obligations. And I think I can tell you that we'd like to see a C-BED project be successful in this state. I think NPPD would like to see that happen. [LR76]

SENATOR DIERKS: Good. That's exactly what I want to hear. Thanks, John. [LR76]

JOHN C. McCLURE: Yeah. [LR76]

SENATOR DUBAS: Other questions? I might have one. You've kind of already alluded to this in reference to C-BED, but maybe you could expand on it a little more. Do you think there are roadblocks in place that are keeping us from fully promoting and getting wind energy production going in the state, especially through the C-BED model? [LR76]

JOHN C. McCLURE: I think one of the questions may be whether the C-BED legislation works as intended. One of the questions I have in particular, and again, I haven't given this a lot of thought, because it doesn't affect us--it would affect a C-BED project developer--is whether any of the restrictions in it on ownership--the desire that only Nebraskans can have a C-BED ownership--is going to adversely impact a lender in putting money into a project, because I don't know what bank wants to loan \$50 million to someone without having the legal right to acquire that if it goes south. And I don't know if that's an issue, but it may be. And again, that was not something we focused on in that legislation, because we didn't ever see ourselves being a C-BED owner, if you

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will. But I think that could be an issue. [LR76]

SENATOR DUBAS: Okay. Thank you. Any other questions for Mr. McClure? Thank you. [LR76]

JOHN C. McCLURE: Thank you. [LR76]

JOHN K. HANSEN: Chairman Dubas, members of the committee, for the record my name is John K. Hansen, H-a-n-s-e-n. I'm the president of Nebraska Farmers Union and appear before you today as our president and also our lobbyist. Thank you to the committee for taking the time to take up this issue. As you know, in the last legislative session, the Legislature did two things to spur wind energy development, and rural economic development in particular, in the state. They passed 49 to 0 the C-BED legislation, creating the C-BED structure that does require the four primary public utilities that are of a significant size, that actually generate electricity and/or buy electricity and then resale it across the state: NPPD, LES, OPPD and Tri-State...those four primary public power suppliers, if they're adding additional generation, have to take a look at a C-BED project. That's what it really requires them to do. And it also requires them to send in a report telling folks what they've done in those regards. And secondly, the Revenue Committee did pass, as a part of its committee package, thanks to Senator Preister's efforts, specific exemptions for sales tax for C-BED-only projects. It was not private sector generic, it was C-BED specific. So in two different ways the Legislature has laid out clear--I think--a path and a model that could be used in Nebraska. In Norfolk I did distribute all of the economic development benefits studies that I was aware of: the GAO study, the Iowa Policy Project study, and the Oregon State National Renewable Energy Lab study that documents with local ownership comes substantially more, three to five to six times more rural economic development benefits in wind energy, which, if we think about it, of course, reflects what we've also learned with ethanol development. When you have local and farmer community ownership, profit centers stay in rural communities, folks are already there, already know and understand

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what needs to be done in the community when they have the financial wherewithal to do it. They go ahead and they continue to invest in additional economic development opportunities, generate additional tax revenues, and/or provide additional services to those communities in which they live. They do not cash out and move to Barbados and buy boats. They stay in the community and they fix up their farms and they buy more stuff, all of which is good and creates additional local, state, and national tax revenues. So there's some huge economic development potential and opportunity here when we look at the size of the wind energy potential in Nebraska. And the issue that I wanted to just touch on today in my comments on LR76 is that as we look at where we've come, where we're at, and what do we need in order to be able to move forward and realize the potential--for not only this new renewable energy opportunity to diversify our state portfolio in a very cost-effective way by being able to use private sector incentives while still protecting and enhancing and really complementing our public power system--is the issue of wind development rights. We touched on it in our discussions of the C-BED development model last session...didn't really have time to get to it. But in my efforts at the ten days at the State Fair, three days at Husker Harvest Days and just the number of calls that we get at the Farmers Union office, we continue to have private sector wind developers going across the state of Nebraska buying up wind-development rights. And these outfits...there's all kinds of contracts, there's all kinds of obligations, there's some tactics, in our view, that are being used that legitimately raise alarm flags: high-pressure tactics; squeezing; the use of false deadlines; the take it while you can and if you don't you're going to miss it forever pressure; the if you don't, your neighbors are going to be missing out and you're going to have to live with that; the fact that you're the only one in the neighborhood who hasn't signed up, when in fact other folks in the neighborhood haven't signed up either. All of those kinds of tactics cause us pause. What are we doing here? We're seeing folks, based on the contracts that we do have access to. There's a wide range of prices, a wide range of attachments and easements and obligations that come with these things. In some cases, we see, in the one hand, efforts that successfully tie up the land for 57 years for a thousand bucks. How in the world would anyone possibly know what their wind development rights and potential was

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worth in 55 years or 2 years or even today? Or how would you know whether or not the contract you were offered today was competitive? There is no transparency. There is exclusionary pressure. When folks are given a contract, they're given very clear direction that they can't share the contents of any of these contracts with anyone else, and so there is no transparency. There's no way to know what the trading range is. And so as a result, in some cases, my organization has become a place where folks call up and say, is this a good deal or not? Well, compared to what: compared to other deals in Nebraska; compared to other deals outside of Nebraska; compared to what a fair and reasonable amount would be or a reasonable amount of time would be? So I don't have answers, but I sure do have a lot of questions about how this whole process has been going forward. And it is troublesome from a C-BED development perspective that primarily uses the opportunity for local folks to become not only the beneficiaries of lease payments, but also to potentially be local owners, which is a primary economic development benefit in addition to being the recipient of a lease payment. That general kind of development protocol doesn't go out and just lock up wind development rights. And the wind development rights contracts that I have seen, and that folks have risked, I'm sure, life and limb and going to jail to send us, just so we have a copy of it, and we do keep the particulars of that confidential...but some of the things that we have seen, I think, none of them have had a local-ownership option. They are all exclusively private-sector developer, owner contracts. So based on that, if you're tying up the best wind-development rights in the state, that are open-ended, long term, and the only real option is to either be able to go in and buy those rights out from a developer or to, you know, go to a site with less wind where developers haven't gone, in order to develop our state's wind energy potential. So this causes us concern, both about C-BED, but also about public power generally. You would hope that in our public power state that we would have the ability to use our own Nebraska wind resources in the most economically beneficial way by developing the very best wind. But if the very best wind sites are already tied up by private sector wind developers sitting on them, in some cases, speculating on them, then what does that mean long term for our state? Again, without answers, but certainly questions...and I'd be glad to answer any questions that I

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might for the committee. [LR76]

SENATOR DUBAS: Thank you, John. Any questions for Mr. Hansen? You get off easy. [LR76]

JOHN K. HANSEN: Thank you very much. [LR76]

SENATOR DUBAS: Thank you. Next testifier. [LR76]

MARC MATHEWS: May I testify again? [LR76]

SENATOR DUBAS: I'm sorry, you're not allowed to testify again. But you can talk to members privately afterwards. Anyone else? Well, if not, I thank you for coming this morning, I thank you for your testimony and your time, and we'll see you back here at 1:30. [LR76]

SENATOR DIERKS: Ladies and gentlemen, I think we better get started. We're waiting on technology. Technology won. Anyway, welcome to the Committee on Agriculture. Our hearing today is on LR136, bioenergy. It was introduced by Senator Erdman and by me, and here comes the boss. Well, I'll finish it, I guess in that the people that are here for the hearing today are Senator Preister, to my immediate right; I am Senator "Cap" Dierks from Ewing; Senator Dubas is Vice Chairman of the committee and she's going to run it; and Senator...or Rick Leonard is the research analyst for the Ag Committee, he sits next to Senator Dubas; Senator Karpisek, Senator Russ Karpisek from Wilber; and Senator Norm Wallman from Cortland. []

SENATOR WALLMAN: Yeah. Yeah, Cortland. []

SENATOR DIERKS: So we have a quorum, don't we? You want to give them the particulars of the hearing? []

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SENATOR DUBAS: Okay. You didn't lay out the rules yet, huh? I have to go to my cheat sheet here. Thank you all for coming. I apologize for being late. Just a reminder about cell phones, make sure they're off or on quiet mode so we aren't interrupted. Those wishing to testify, might be helpful to come to the front of the room or kind of get in an on-deck chair so we can move things along. Request that you fill out a testifier sheet with all of the pertinent information and present that to Linda after you have testified. Please state your name and spell your name for the record. All this information is for the clerk's use, should she have questions, needing to contact you in the future about your testimony. That makes her job a little bit easier. I ask you to please try to keep your testimony concise and to the point, and try not to repeat what other people have said. If you do have something to hand out, our page, Kara, will take care of that for you. So just give her the information and she will pass it out to us. Ask you to keep your demonstrations of support or opposition in check; appreciate that. And we're just very glad that you're here to share your information with us, so please don't be nervous. We appreciate you taking the time and effort and energy to come before this committee and, again, just appreciate that. So with that, I guess we'll move on to the first hearing on LR136 and Rick Leonard will open us up. [LR136]

RICK LEONARD: (Exhibit 1) Thank you, Senator Dubas. And I do have a handout, if the page would come over. LR136 was an interim study introduced by Senator Erdman and cosigned Senator Dierks. Basically, the study is to look at means of stimulating expansion of biodiesel production in this state. As you are aware, the committee has before it, still pending before it, LB626, a bill that Senator Dierks brought which proposed a production incentive in the form of a per-gallon production subsidy, similar to...somewhat similar to the ethanol production incentive program. That bill, although not necessarily a competing measure, there was another measure which the Legislature did advance. That one came through the Revenue Committee, LB343, which took a different approach. It was basically an investment tax credit under the Advantage Nebraska Act. That program has been...we advanced that with LB343 last year. What

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I'm handing out to you is in the briefing items that I mailed out earlier. I mentioned you see state-by-state tables and graphics of biodiesel incentives, and I neglected to attach this to your briefing items that I mailed out before, but this is from the Biodiesel Board. I've called and it's supposed to be up to date as of September 1, but I see they didn't include Nebraska's in there so it may not be as up to date, but it should be within probably the last year or six months of examples of activities that are going on in other states: generally, a breakdown into the infrastructure incentives; the tax break for the investment credit, I'd probably more accurately describe it as investment credit; production incentives; the renewable fuel standards; government procurement preferences, a variety of means to do that. Also in front of you is a book, you'll see a rather thick book, with a number of reference items, and I want to thank Robert Byrnes from the Nebraska Renewable Energy Association who...we collaborated somewhat on this project. He had received a grant and was able to hire some help to complete some documentation for the committee and compile some very excellent information for us. We had sat down at the beginning of the interim and put the blue print together of things, items, we had put together specifically for this hearing. And so he's discussed...in his report he will discuss incentives in other states, a number of items in terms of emerging technologies, conversion factors, a lot of information I think that will be very useful when compiled into one report. So anyway, Senator Erdman was unable to be here today and asked that I present the subject to the committee, and I think we'll have a lot of information to be presented. We've specifically gone out of our way to invite a couple persons who are involved in trying to get biodiesel plants off the ground, involved both either at the investment end or as a consultant, working with investors in trying to get a project off the ground. Looking forward to their testimony today, I think they'll be able to bring us some very practical experiences on the obstacles and the hurdles that they're encountering and economics, all the things that go into trying to get some biodiesel production going in this state. So I'd have any...if you have any questions, I'd stop there. [LR136]

SENATOR DUBAS: Any questions for Rick? Thank you, Rick. Do we have our first

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testifier? And I understand that our committee clerk wasn't introduced. Our committee clerk is Linda Dicken. [LR136]

ROBERT BYRNES: (Exhibit 2) Good afternoon, members of the Ag Committee, Chairperson Dubas. My name is Robert Byrnes, spelled B-y-r-n-e-s, hail from Oakland, Nebraska. Today I'm representing Nebraska Renewable Energy Systems, Nebraska Renewable Energy Association, and small-scale biodiesel producers across the state. I have, and I'm also privileged to have the...I wanted to go through our reference book that we've provided here. Our student from Wayne State College, a political science major, Greg Ptacek, is here and hopefully we'll hear from him a little bit as well today. But this was a renewable energy internship project that was granted under LB90 funds over this past summer and we employed a number of students to do a number of renewable energy projects. This and net metering was the other two topics of study. So we're thankful to have this reference available to us as a result of Greg's hard work. So we'll go through the manual here just briefly. I'd like to come down to my summary recommendations. The first tab should be "Nationally." The "National" tab should...covers, as Rick's document does, what's going on in other states, and there's two trends that I can identify right off the bat, is states that have incentives are either producers, because producers have flocked to those states because incentives exist, and they're also states that value green energy, and typically those are on the left and right coasts. These are states with RPSs, states that will pay more for biodiesel, and they have incented this production. And that's why we're hearing of biodiesel and ethanol plants in places like New Jersey and Rhode Island and New York, because the greener states have provided these incentives earlier on. But there's some good references here on what different states are doing. I know last year on LB626 we talked about kind of a broad-based incentive per gallon. There was not the political will at that time to really forward that, and that may not be the best way to produce...to proceed with Nebraska. Toward the end of the "National" section, there's an excellent reference by NPPD on the economic development impacts on a 10 million gallon ethanol plant, and it's in the second half of that first "National" section. And the bottom line, we're

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looking at about \$41 million of economic development impact from a 10 million gallon per year ethanol plant in non-metropolitan Nebraska. So I think that is an excellent document. It's not one that I had seen before this report, so it is a very valuable research piece. In the "Nebraska Legislature" section, this actually traces back. Some of the first legislation was two sessions ago, which was LB1198. LB1198 attempted to address the biodiesel licensing standards that existed at that time in the state of Nebraska. This was voted unanimous. The Revenue Committee was not able to get to the floor but, subsequently, motor fuels did adopt the vast majority of those standards and, as a result, we have some of the most user-friendly licensing standards in the nation. Also included there is LB343, which was discussed; LB626; and then the research initiative that grew out of LB626, the AM836, and that is included, with its entirety, with a summary of that legislation in the forward. Other tabs of interest: there's a "Food vs. Fuel" section in there. There have been some discussions of the transference of food and feed materials into our fuel tanks. That has a number of ramifications and there are some reference material there regarding that discussion. It is not just human food but also animal feed, you know, one extent to another. I mean, every bean is going somewhere now, but, you know, sometimes when these changes occur too rapidly we can have quite a bit of turbulence in the market. I think we're already seeing this with corn. The next...yours is...your tab is "Nebraska Grown." It should actually be "Nebraska Growth," a copying oversight. This "Nebraska Growth" section is extremely timely and very important piece of this total reference. It talks about feedstocks, where we currently are right now--feedstocks are those materials that are used to produce biodiesel--and talks about what our opportunity is. I mean, at the end of the day, if we took our vegetable oils and animals fats, Nebraska has the ability to produce one-half of a billion gallons of biodiesel annually. What we'll see, though, and we'll discuss here a little bit, is that we need to put these things in perspective. We have 950 million acres in the United States dedicated to oil seed crops and livestock raising and production. On that 950 million gallons per year, if we took all of those animal fats and all of those vegetable oils, we could replace about 15 percent of our petroleum diesel requirement in the U.S. So there's an inherent limitation using existing

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feedstocks, as we know right now. So I do want to spend a little bit of time--and there is quite a bit of reference in here, I'm not going to go through it in great detail, it's here for you--what the alternative feedstock options are. Sunflower is a primary one that we're able to do here in Nebraska. Seeds from Nebraska family, like camelina, mustard, and canola, have exceptional opportunities in the western portion of Nebraska. These crops have, right now, have the ability to provide twice the oil per acre as soybean. Soybean currently, at a 60-bushel-per-acre yield, could provide 60 gallons of fuel per acre, whereas soybean...excuse me, sunflower and canola, camelina-type crops can produce double that per acre--100 to 120 gallons per acre. So there's some great reference material in this. There's also an excellent reference on biodiesel from algae. Algae is nature's most productive storer of solar energy in the form of these long-chain carbon bonds. Algae is over 60 percent oil by weight. To give a...to put this, again, in perspective, the difference in the productivity of this water-based versus land-based feedstock, for example, of that 950 million gallons per...950 million acres that could replace 15 percent of our current petroleum needs, algae, if grown in a concentrate form, within 15 million acres could provide 100 percent of our petroleum diesel needs. To put this, again, in perspective, this is 12 percent of the Sonora Desert in Arizona. Okay? And there's no...the research is right here. It came from NREL. Twelve percent of Sonora Desert, if put to algae farms, could provide 100 percent of our nation's petroleum diesel needs. Okay, that is a feedstock that would equate to 3,000 gallons of oil per acre. That is of a different...a totally different category than vegetable and land-based feedstocks, so this is something that we'll come back to as with AM836. Also included in this "Nebraska" section here is the Countryside Co-op biodiesel feasibility study and business plan, which was a federally funded USDA grant a couple years ago--excellent, excellent documentation there. There's also a section on "Pitfalls" for the industry, and there are a number of them and they seem to be, particularly with these current feedstock pool, the pitfalls seem to be increasing and I think we'll hear from some other folks in that regard. I think the last page in the "Pitfalls" section was the potential requirement of BQ-9000 standards on the industry. As a biodiesel producer and project developer, I would strongly encourage that such standards not be required

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of the industry. This is something that would not only put severe economic burden on smaller, decentralized plants, but would also take a lot of them off the radar. Okay? It's probably \$150,000 a year to meet a BQ-9000 requirement, and \$50,000 a year after that every year. So we have to be careful about the requirements and the hoops and hurdles that we put before the industry at the same time. Biodiesel has the opportunity, unlike ethanol, which dramatically benefits from economy of scale, biodiesel can often be produced more productively and more cost-effectively on the farm than it can be in a commercial environment. And doing it in both places, I can tell you this from firsthand knowledge, that you can...if you...you're completely 100 percent vertically integrated on the farm--if you're feeding this meal, you're growing the seed, you're using this fuel--that's \$1.50 a gallon fuel. And, you know, commercially, if you're buying oil, that's impossible to achieve. Commercially, even if you're crushing oil, which now is the best way to achieve these...for these plants to cash flow, you still don't own the cattle, you still have to sell this, you still don't raise the seed. So biodiesel has...the greater opportunity for biodiesel is small scale in terms of dollars per gallon. Now at the end of the day, the total gallons won't be there, but it can be produced at any level and I wanted to accentuate that. There also is a section here, I think some of the original study had included, a "Hydrated Ethanol," looking at the opportunity for 190-proof alcohol. I think this, you know, September is renewable energy awareness month. I was there at the State Fair when it was announced. And it was an interesting comment because I think we have achieved great things in becoming number two ethanol in the U.S., but we also have the highest gas prices in the nation. So those two things need to somehow come into the same room and get together. I think E-85, 190-proof alcohol, all these solutions are available to us if they were developed or allowed to develop. Finally, there's another section on "Technology." This is an excellent resource for the senators, especially looking at incentive options. I think we want to, certainly, incent the future. The technologies, I think it's pretty well laid out what lies before us in terms of what can be done. And I think these are the kinds of things we want to encourage and incent. I'd love to see technology process companies based in Nebraska. You know, we're a great consumer of ethanol process, technology, and equipment, but none of them here is

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based in the state. So hopefully an incentive, technology-based incentive, would end up having technology companies that just have headquarters here in the state. And then the final section is on "Energy Balance." Energy...biodiesel enjoys a 1 to 3.2 energy balance when using soybean, and 1 to 4.3 when using the higher oil...higher percent oilseeds, like Nebraska family oilseeds I mentioned. Energy balance for algae has not been developed. But, really, any way you look at it, it is a good deal. From an energy return standpoint, compared to ethanol, it's 1 to 1.6. And, you know, petroleum diesel always likes to not bring up, but petroleum diesel is a net energy loss at 1 to .84, to put that in perspective. So if you would, turn back to the front and I had a summary of recommendations on probably the third page. And again, thanks goes to Greg Ptacek for putting this information together for you all, and to any of you that might have supported the LB90 grant program that made that renewable energy internship possible. So as a summary of recommendations, right now we're in startup at the Scribner biodiesel plant. You know, we make our own fuel on the farm. I've been running it for years, making electricity with it, so I kind of live and breathe these stuff every day. So my recommendations here stem from not only what's within the book but from personal experiences and my experiences in dealing with NDEQ and motor fuels and producers across the state. We know that this, just looking at...I mean, I didn't need to look at NPPD's numbers to know that this is a good deal for Nebraska. We've got the oils. We've got the highest on-farm diesel consumption in the Midwest. We can use these fuels right here from raw materials that are all around us. So my first point is that this is an opportunity for energy...renewable energy/decentralized energy production, economic development, and value-added agriculture in one shot. Limited and focused stimulation of particular technologies in the biodiesel industry to move away from the standard feedstocks would greatly benefit Nebraska at this critical stage. And I would accentuate that this is a critical stage in biodiesel right now. We started Scribner biodiesel plant two years ago, when the ten-year average of soybean oil was 23 cents a pound. It's now 40. Okay? So this industry, with the standard feedstock pools, is really, at 40 cents a pound, you're looking at a gallon of oil of \$3.20 that's going to take you 60 cents to convert, and then you've got to add taxes, that doesn't pencil out, and I don't

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even have a pencil. So that's something we need to look at. Do we want to incent these things that are doing the same old, same old? Or do we want to incent what's coming down the road, bring those guys here and develop the process technology that builds around those types of facilities? This has been confirmed and this has caused a slowdown. We've had a biodiesel fund-raiser that was suspended in northeast Nebraska, and that was a pretty, fairly sound project. We've had discussions with NDEQ. Have come back...they have not even had an inquiry in over four months. Okay? No new inquiries have been received regarding commercial biodiesel in over four months, coinciding with the rise in vegetable oil prices. I would propose that AM836 is a way of addressing this in a limited fashion. A threshold, having...I worked with LB1198 a couple sessions ago. I mean, when I walked into motor fuels and asked about biodiesel, I got handed the same package they would have handed Cargill, who wants to put an 80 million gallon ethanol plant in. We have streamlined those licensing procedures ever since I received the first license, but there is still some work to be done, and I know this because there's only 7 consumers registered in the state of Nebraska as producer-consumers, and I know there's at least 200 that are making this fuel for their own use at home or on the farm, and currently, according to state law, they are outside the law. So I would suggest one of two things would need to be done: Either the law needs to be enforced as per our state motto--equality before the law; or there needs to be...which would be my recommendation, would be to create an exemption for small-scale producers on the scale of 5,000 or 10,000 gallons per year, something of that magnitude, no commercial sales, home use only, apply with all other applicable regulations regarding wastewater or whatever. But as it is right now, there's a growing divergence between, you know, what needs to be done and what's being done in terms of licensing. Many states have such exemptions for this for the small-scale producer, like Wisconsin, and they have seen a proliferation of it since. Every gallon we make here...and a lot of times these guys are using waste materials, used vegetable oils, materials that would otherwise end up in the landfill. So every gallon we make and use here is a gallon that doesn't come here from somewhere else. Again, on number four, we need to enable small- and home-scale producers to provide a place to take their

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wastewater. If they have wastewater, if they're in a situation where they cannot dispose of glycerin or wastewater properly, I would challenge NDEQ, and we've visited on this already, to be a little more proactive. It's easy to sit back and say, well, if you make one gallon of wastewater, bing, bing, bing, bing, bing; let's go ahead and be a little more proactive, identify those POTWs, the publicly owned water treatment plants, that have excess capacity where folks can take these materials. I know we've put methane...a methanol-glycerin mixtures into Danny Klute's (phonetic) digester. It's increased his methane production and made renewable electricity out of it. There's all kinds of options out there, but we need to...I think the regulatory agencies and the citizens of Nebraska need to come a little bit more together through communication and proactive activities. Since the only option available to expand biodiesel at the current time, buying oil, is out, and actually a lot of the plants in other states--I quote a lot of this from Iowa folks at the State Fair--was that their large facilities that are buying soybean oil from ADM, Cargill, AHP are running at 30 percent capacity or not at all. Buying oil is a very difficult option for a biodiesel facility at this time and, really, the way you can get that oil in a cost-effective manner for this plant to cash flow is to, instead of having oil as your raw material feedstock, to have the seed as raw material feedstock. This is, again, adding more value to a Nebraska commodity, using it here, on and on. But those facilities that do take that route, which is a more difficult route, more expensive route to take, we, you know, there may be other existing programs that they might fall under, like Nebraska Advantage Act, because it is essentially starting manufacturing, good-size manufacturing when you're talking about mechanically crushing and taking that seed oil out for yourself. By the way, that same equipment can be used to extract oil from algae. So they should be...I think they should be included, whether if not in the incentives certainly within some other...something that would enable them to make those kinds of options happen, because right now that's the only thing that's growing is if they are taking seed and not oil as their primary input. I mentioned the requirement of BQ-9000 or ASTM standards will be a debilitating factor to this industry going forward. There are a number of clean diesel technologies that come from reformed and syngas-type technologies that will not meet the standard, yet are...will perform satisfaction in diesel

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engine. ASTM standard also does not include things like sterols, which is...was the major problem in Minnesota here two winters ago. So, while incomplete, it is a good standard. We do need to protect our nation's food...our nation's fuel supply in terms of quality, but we have to be careful of requiring standards that the small producer will not be able to meet. Again, I talk about in here finally AM836. I think AM836 kind of spawned out of LB626 as a specialized type of incentive toward...that would be geared toward limited production, Nebraska-owned technology or projects that would incent or provide a 10-cent or 15-cent a gallon incentive for those technologies that are deemed to be those representing the future using alternative feedstocks, using novel production methods, having environmentally friendlier characteristics, increased energy balance, so forth and so on. I appreciate Rick's time in helping develop that and Senator Erdman's interest in developing that, and I think that, as it stands right now, is fairly well refined and in a good form to carry forward. It also includes oversight from the University of Nebraska to review each project to deem its worthiness to stay within the spirit in which the legislation as intended. So I would encourage that, that type of incentive or an incentive that was along those lines to be forwarded next session.

[LR136]

SENATOR DUBAS: Thank you, Mr. Byrnes. Are there any questions from the committee? Senator Dierks. [LR136]

SENATOR DIERKS: Robert, would you give us kind of a rough breakdown of the facilities in Nebraska right now, the crushers and the processors, what we have?

[LR136]

ROBERT BYRNES: I think we have about 200--correct me if I'm wrong, Laurie (phonetic)--but I think 275 million bushels of soybean a year. Probably 90-plus percent of that is chemically extracted, most of which is done out of state. There are crushers. There are currently no...Bruning Grain is a couple million gallon...there's one gallon per bushel, so a gallon a bushel for soybean is interchangeable. We got a couple million

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gallons per year crush in Bruning, Nebraska. We've got an expansion of a crush facility in West Point, Nebraska. We've got smaller facilities in Howells, Scribner, and Newman Grove. Probably they combine to a million bushel per year. There is...and that's the only crush in the state that I'm aware of. None of those crushers are producing biodiesel except for Scribner. Scribner has probably about a 10 percent feedstock, 10 percent of their feedstock comes from roan (phonetic) inherent crush, but that is the only one at this time that is doing that. Now there are projects on the horizon, particularly central Nebraska, that will look at 100 percent of the oil that it takes in for fuel or other uses, will be for mechanical crush. There is...or currently in the state of Nebraska there are three commercial, commercially licensed facilities. One is Scribner, one is a small pork fat based facility in Fremont, Horizon Biofuels; and WyoBraska BioDiesel in Gering. Those are the three commercial producers. There's two micro-scale producers, of which I am one, and then there's a facility in...west of Blair that's producing small, 100,000 or so, 150,000 gallons per year on waste vegetable oils. And then there are seven home self-producers in the state. [LR136]

SENATOR DIERKS: So what are those...what are those home producers...what's their capacity? [LR136]

ROBERT BYRNES: They can vary. Some of the systems that are out now, I mean you see biodiesel systems in Northern Tool, Equipment catalog anymore. Some of those systems are pretty robust and if you really, I mean, pushed it, I mean, and had the materials, you could...I mean, 5,000 gallons per year would be...would definitely be achievable. Now on the farm that's kind of a drop in the bucket and that's why, when you look at numbers and limits, you know, I like to try to balance, you know, the farm usage versus what the average consumer might use. [LR136]

SENATOR DIERKS: So with the advent of the need for more corn for ethanol plants, does this reduce the amount of diesel out of soybean production in the state? Have you noticed that? [LR136]

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ROBERT BYRNES: Well, it has...it has. Thus far, it has. In fact, we saw this in this. We've got a record planting for corn this year that has displaced soybean acres. So the pool has shrunk somewhat as a result of increased corn production. But what we're wasting is 4 percent of 1.5 billion bushels of corn, which is oil. Four percent of that corn kernel is oil, all concentrated in the germ. The germ is broken out separately. It's almost 50 percent oil by itself, which can be mechanically crushed very efficiently. The problem is the dry mill ethanol plants. Now the wet mills do this. The wet mills take this out in Columbus and in Blair. The dry mills grind it and that oil passes through the system; actually does nothing for ethanol production. It actually...if they're drying DDGs, it contributes to VOCs in their emissions. There's some...there's two schools of thought to recovering that corn oil. If we recovered that, that corn oil alone is over 200 million gallons per year that right now we're getting 10 percent of. So that, you know, right now, yes, it affected the pool. Hopefully in the future, if that can be separated through an up-front procedure through degerming and separating it up front which is more efficient to do, and then separate it out up front and the fermentable portion goes to ethanol, or you can try to spin it with centrifuges and specialized equipment on the back end out of thin stillage, but you only get half of the total potential because it goes to DDG and the form that you get it in by the time it comes out of the ethanol plant and through driers and everything else, it's pretty beat up. [LR136]

SENATOR DIERKS: Thanks, Robert. Don has a question. [LR136]

SENATOR DUBAS: Senator Preister. [LR136]

SENATOR PREISTER: Robert, did you mention that there was a pork plant that was using pork tallow for biodiesel? [LR136]

ROBERT BYRNES: The pork plant itself is not, but that facility has collocated kind of with them and that's...it's based off Hormel pork fat. That's in Fremont. And they kind of

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built this process around the plant. It's not Hormel doing it. It's a private entity doing it, but they're taking the fat from the plant. And I think as we go forward into the future we'll see more of these collocations, collocating biodiesel and ethanol based on this corn oil, using waste heat resources to do this stuff. I think the collocations and the synergy presented by those collocations will increase. [LR136]

SENATOR PREISTER: And can you tell me what's involved in the permitting process? Do you have to go through a local city or county permit process and DEQ, or what's involved there? [LR136]

ROBERT BYRNES: You had to go there, huh? (Laughter) I wrote all the permits for the Scribner Biodiesel plant and it was an eye-opener. You know, there are laws and things that need to be followed, but I thought the army had bureaucracy. There are some things out there that need to be done and it is...it's pretty significant. Now there are...working with NDEQ, and they're great folks to work with. I mean, again, they're just enforcing the law of the land. But there have been some cutoffs and some establishment of thresholds since we got the Scribner plant through, so that particular operation in Fremont, for example, anything under 300,000 gallons per year, would not have enough air emissions to qualify to have to do an air permit... [LR136]

SENATOR PREISTER: That's what I was wondering. [LR136]

ROBERT BYRNES: ...using methanol. Using methanol. Now the toxicity of methanol is what comes into play there. Ethanol can also be used to convert biodiesel and Scribner, the Scribner facility, is one that can take either alcohol. That ceiling grows several times when you substitute ethanol for methanol, because of the nontoxic nature of the material. So there are some thresholds out there, you know, so you have an air and a water permit. You have Fire Marshal regulations, which are...can be significant because of the flammability of the alcohol that comes into play. The oil itself is not. Its fire hazard, it's a Class IIIB substance with 320 degree flash point, so it's inert. It's...I think the term

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is less toxic than salt and biodegrades like sugar, the actual oil and biodiesel. Local permitting is generally not a problem. They welcome these facilities. The water permitting is probably the biggest challenge we'll have, especially to decentralized small facilities, because small town Nebraska does not have excess capacity in their waste for their treatment plant. They're typically outdated and, in fact, there has been a water treatment upset by a very small plant in Arlington that upset a city water treatment plant. So that's kind of...the wastewater is a challenge and, on the small side, wastewater permitting starts at one gallon. There's no threshold. So that is probably the most challenging area and, again, I think a little proactive...some proactive programs and education I think would go a long way in ensuring that we meet environmental compliance on the laws, yet we're still able to do these things. [LR136]

SENATOR PREISTER: Thank you. [LR136]

SENATOR DUBAS: Any other questions for Mr. Byrnes? [LR136]

SENATOR DIERKS: I did, one more. [LR136]

SENATOR DUBAS: Senator Dierks. [LR136]

SENATOR DIERKS: I just recall you mentioning something about algae as a potential source of diesel fuel. Could you explain that a little bit? I mean I, when I think about algae, I think about the green stuff that is in my water... [LR136]

ROBERT BYRNES: In the cattle tank. [LR136]

SENATOR DIERKS: ...in the cattle tank. Yeah. [LR136]

ROBERT BYRNES: Same stuff. Algae is a...actually, it can be used as a whole food, whole human food. Contains RNA, all kinds of good stuff in there. It is actually sold at

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\$60 a pound as a nutritional supplement. Algae is 60 percent oil and has a productivity that far exceeds what can be seen with land-based crops. I mean, if you look at a land-based crop and you have a sunflower that's 15-foot tall, all you're taking is the little seeds from the top. That whole biomass structure is left behind. With the algal structure, the whole thing is an oil pod. And the sun's energy is converted...you know, they float on the surface. Generally, the sun's energy only penetrates an inch into any given pond or water body, so they always...they're always green because they're chlorophyllic, they're always near the surface to get the sun's energy, and they take the sun's energy just like any other ag animal or crop and convert it to these long carbon compounds. Through crushing and pretreatment, you know, this algae oil can be extracted, but on these water-based systems, in these runways, in these clarifiers, and you can do tubular reactors, there's different ways of doing it, that oil can be recovered readily from those systems, and then it's just a 16-carbon chain like anything else from an animal or a plant. [LR136]

SENATOR DIERKS: It's something that's grown on a water tank someplace, is that?
[LR136]

ROBERT BYRNES: See, what's grown...what we have growing on the farm is a mix. You'll have some pseudomonas, you'll have all kinds of different bugs in there. A lot of it is airborne contamination. It would be very...you'd be hard-pressed to do a monoculture, algae monoculture, in an area like that where there's so much stuff blowing around. The algal farms and stuff, like in southern California, are kind of secluded. They don't have as much cross-contamination, they're covered, in best case scenario. But there's single types of algae. Chlorella is one of them. They're single-cell. They have this high percentage of oil and they also have this food/feed by-product that comes out of the process. But there are specific strains. Not all algae is created equal. Some have more oil than others, just like land-based crops. [LR136]

SENATOR DIERKS: Thank you. [LR136]

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SENATOR DUBAS: Any other questions? Thank you, Mr. Byrnes. [LR136]

ROBERT BYRNES: Thank you. [LR136]

SENATOR KARPISEK: Good job. [LR136]

SENATOR DUBAS: Next testifier. [LR136]

JOHN HANSON: (Exhibit 3) Good afternoon. My name is John Hanson, J-o-h-n H-a-n-s-o-n, and I am the president of Ag Development, Incorporated, in Kearney, Nebraska. I'm also one of the partners involved in Renewable Fuel Technology, which is also headquartered in Kearney. I have a brief handout for you, not nearly as impressive as that binder there, Rick, but what I have is one side is just a background on some of the economic impact of biodiesel that it holds for our state. As you'll see towards the end of that page, the one thing I would point out, if we capture 20 percent of the projected growth over the next ten years in the biodiesel industry, that equates to \$400 million in investment in our state, so this is a huge potential. A lot of us that are involved in the industry believe that biodiesel is where ethanol was ten years ago, and the states that are aggressive and go after these issues will be the states that have this industry rest. On the other side of the page, when I talked to Rick, he said I should just point out a few of the challenges that we've had in development of our plan, and before I run through these I'll just give you a little bit of background. I'm a former senior ag advisor and district director for Congressman Tom Osborne, and during that time I had done a lot of research about alternative agriculture, what was coming, the changes in agriculture, and I believed very, very, very much in the idea of entrepreneurship changing rural Nebraska and that we do have some wonderful opportunities. So I formed Ag Development a year ago in June and put together the idea of going after some of these developments and putting them together. We, the group that I'm involved in, studied every aspect of biodiesel in great detail. We studied plants that were existing

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plants, that were proposed; we studied different technologies; and we announced in April that we intended to build a 10-million-gallon, vertically integrated, biodiesel and oilseed crush facility in Arapahoe, Nebraska and that plant is now well underway. And I wanted to give you, as background, a little bit of our experience. I think one of the previous...the previous testimony discussed the issue of vertical integration in the crush. We studied that and saw that coming, and I'm very glad we did. As has already been mentioned, there are several biodiesel plants that are either on the drawing board or sitting idle, and the reason is they didn't build the crush facility. They were dependent upon someone else to go out and buy the oil. Our facility in Arapahoe is completely vertically integrated. We use contracts with farmers to provide all of the oilseeds we will need to make our 10 million gallons of biodiesel per year. The challenges that I want to point out--and again this is...we're very pro-biodiesel, nothing negative, but just in a quick snapshot: we announced our project in April; we applied for our permits with Nebraska DEQ the first of July; we raised all of the money to fund the entire project, both the crush and the biodiesel operation; and we purchased the plant; we purchased all of the equipment; and for the last...since July 30 the plan is sitting in boxes in Arapahoe, Nebraska; the building for the biodiesel plant is laying on the ground in Arapahoe, Nebraska; the 21 jobs that we will create and the half-a-million-dollar annual payroll is still in the bank just because we're waiting for a permit from DEQ. And I find it so frustrating. For me, it's hard. I lose sleep at night when I realize that we have a \$15 million project, all the money is raised, all the loans are approved, and everything is sitting in the bank because we can't build it because we're waiting on the bureaucracy of Nebraska DEQ. And I realize they have great rules to follow, and I'm not arguing that. I just think we really have to look at the process. Because at this point, our group intends to build 10 or 12 of these projects. I would be hard-pressed at this point to, after the discussions we've had with surrounding states. Yes, we will build more in Nebraska because that's home for everyone in our group, but it's a lot more attractive for surrounding states right now just in the timing of how you can get one done. I do...I don't come with a challenge without a solution, and I'll point that out in my first point on the page that I handed out. I believe that developers should be given the opportunity to

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purchase a performance bond. If I go to DEQ and pay my \$3,000 to buy a permit to build a biodiesel plant, why can't I then purchase a performance bond that says I'll do whatever DEQ tells me to make this thing happen? And that bond could be held and if I violate what DEQ tells me, that bond would be the assurance that it would be made correct. Because as I've stated, in our situation, our technology is exactly the same as Scribner's. It is the same technology. It's Technochem. It's the same thing. Scribner goes through a yearlong permit process. We show up with the same technology and start completely over and have everything sit? Why can't we have somehow that we can begin construction while we're doing that permit process? The other issue is, and this is as we've addressed this with NDEQ, if they are truly understaffed, if biodiesel production is a goal for the state, that needs to be addressed. We can't just have one or two people that...or we have to wait till they get back. They have made some headway. When we applied in July, we were given an ethanol packet to fill out and my first reaction was, well, no, wait, we're a biodiesel plant. Well, they didn't have anything on biodiesel; fill out the ethanol one. Well, there's nothing the same. Research and development: The other issue, biodiesel is one of the greatest opportunities for water-short parts of our state. And as I've followed the discussion--I was very involved in LB343--I don't think that point has been made to the level that it should. As the previous testimony pointed out, there are so many opportunities for alternative cropping that are low water use, high oil crops: sunflower, camelina, canola. These crops use way less water and have a huge opportunity as high oilseed crops. The problem is we don't have any research going on to benefit those crops. Right now, I find it so frustrating. I've had great response from the University of Nebraska Panhandle Research Center. They've done a great job. But they've eliminated most of the positions that have studied the oilseed crops, so now we go to K-State and I cringe every time we have to do that. So I think there's definitely a need, if biodiesel is a priority, as I believe it should be, to go after that research and analysis. The third item that I've pointed out is risk management. As we look at those alternative crops, the biggest challenge is you can't insure them. And I know I'm kind of beating a dead horse for a few of you that I've brought this up when I worked for Congressman Osborne. I'll bring it up again. The state of Nebraska

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could become an amazing leader in alternative cropping and...if we would create some kind of a self-funded insurance pool where people that want to try new crops could have an insurance program to insure those. I know on the federal side that the folks at the risk management agency have reached out and want to work with states and other agency to create alternatives for more ways to manage the risk. The last item I'll point out is economic stability. As has been mentioned, it's a challenge right now to make biodiesel out of 40-cent vegetable oil. I will also point out that the grind margins, the difference between the value of the commodity and the value of the pieces that come out of the back end of the processor, yesterday reached an all-time high. So don't be fooled that biodiesel can't be made at \$9.50 soybeans. Absolutely. Our plan is moving ahead full speed because we will crush our own oil. We don't have to pay that middleman to create that oil. And to that end, my final suggestion that I've pointed out here, we've done a good job and LB343 is a great first step, in my opinion, to incent biodiesel in the state. The piece we missed is we excluded the oil processing. So what I would propose, and I hope one of you, as a state senator, will consider, is if we could, for smaller regional plants, and I believe that to be 10 million gallons a year or less, if we could expand LB343 to include the crush equipment so there is an investment incentive not just to build a biodiesel plant, but if you're going to build one build the regional concept where you incent the investment in the crush equipment as well. Because I think it is hard-pressed to believe that a standalone biodiesel plant, without some extenuating circumstances, is a viable economic analysis at this time. So with that, that concludes my testimony. I'd be glad to answer any questions you may have. [LR136]

SENATOR DUBAS: Any questions for Mr. Hanson. Senator Preister. [LR136]

SENATOR PREISTER: I appreciate, too, the work that you've done, John, in putting things together and seeing the opportunity when you worked for the congressman. When you talk about the permitting process, I can understand the frustration. I think...more as a comment than a question, but we've had a hiring freeze on instate and we've given NDEQ more and more responsibilities through the legislative process. Over

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and over again we have not given them corresponding increases in money or staffing. And somehow the administration, seeing this as a high enough priority, that they do something with that hiring freeze or make corresponding adjustments I think is part of the answer. It's probably not totally. Some other suggestions that you had I think are important, but I think the administration is in charge of that hiring freeze and that definitely contributes to the slowdown. [LR136]

JOHN HANSON: If I can make a follow-up comment. [LR136]

SENATOR PREISTER: Please do. [LR136]

JOHN HANSON: I agree and that's why I wracked my bearing and wracked my brain after I talked to Rick about coming down to testify today, and that's where I came up with the idea of the performance bond. Right now, we put everybody on hold until you're completely approved that everything you're going to do is going to work. Well, I don't know why I should have millions of dollars sitting in an account that could be being invested in our state. I promise that I will fix whatever it takes to make DEQ happy, because I have \$14 million dollars worth of investment that says I'm going to build this. So why not let me get started? I don't think I can get too far out of whack digging the foundation for the building. That's...we can't even do that. So why not let us buy a performance bond or another way that says, okay, you're innocent until you're proven guilty; go ahead and start building it, but you have to keep working on your permit and get your permit, and if you don't, we're going to take this bond? So that's where that idea came from. [LR136]

SENATOR PREISTER: Sure. It's a creative way to approach it. Thank you. [LR136]

JOHN HANSON: Thanks. [LR136]

SENATOR DUBAS: Any other questions? Senator Wallman. [LR136]

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SENATOR WALLMAN: Yeah, thanks for coming. And Beatrice, you know, is setting up a new plant and they're going to, I guess, enhance the oil a little bit more and use the by-products. So I think, too, it's the way of the future and the board members told me we're ten years behind on our energy policy and part of it is permits. And we're actually, you know, pushing people out of our state. And thank God for the Australians. They come in here. They put up with this stuff. And so I think we have to make us more friendly and anything you guys can do to help us out, and I, for one, would definitely like to see more energy, renewable energy stuff. [LR136]

JOHN HANSON: That's good. I'll make one more comment. You know, I was a politician long enough that it's hard to not address everything everybody says, but I'm getting better. I'm getting over it. (Laughter) But one thing I would comment, I applaud the folks at the Beatrice plant because I know they're working on a very high end...their glycerin and so on is pharmaceutical grade. In our model, what we've done is we have a...where we will be grinding soybeans and sunflowers in Arapahoe, our soybean meal and our glycerin will be livestock feed quality, because that's the best market for us. So I'm sure, if you get questions from livestock producers that say, well, now wait a minute, all these soybeans, all this sunflower are going into...out of that market, it's not. Basically, what we're building is a huge feed mill and we're going to process it locally, hopefully have great quality control, and we'll be right there in their market. [LR136]

SENATOR DUBAS: Senator Karpisek. [LR136]

SENATOR KARPISEK: Thank you. Thanks, John. What's the shelf life of your by-product compared to, like, ethanol? [LR136]

JOHN HANSON: The...depending on the, you know, with so many things that are organic nature, it depends on the temperature and the moisture content and so on. But that hasn't been a big concern. The shelf life, we've been told, is four to six months.

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Probably most of our meal we will sell right back through the co-op that's a partner in our plant. Whatever doesn't go there we'll load on trains and will be used in dairies in California. [LR136]

SENATOR KARPISEK: So it's not near as quickly...to ethanol. [LR136]

JOHN HANSON: No, no, not compared to ethanol, to wet distillers grains. Soybean meal, it's the same soybean meal that, you know, anybody that's ever fed a chicken or a pig, same stuff. The moisture content is the key. If the moisture is out of it, it can keep a long time. [LR136]

SENATOR KARPISEK: I know I had a ethanol plant by Fairmont had the same problem, waiting, and they finally got that approved, but they said they didn't want to hire any more mainly because, well, we're about to the end of the ethanol boom. But if we have this coming, (laugh) another person or two would definitely help. So anyway, thanks for coming; very interesting. [LR136]

JOHN HANSON: Thank you. [LR136]

SENATOR DUBAS: Any other questions? [LR136]

JOHN HANSON: Thank you. [LR136]

SENATOR DUBAS: Thank you, John. Just for a point of information so I can kind of gauge our schedule, could I have a show of hands of who plans on testifying on this legislative resolution? [LR136]

GREG PTACEK: I suppose I'll kill the question. Can I go now? [LR136]

SENATOR DUBAS: Sure. [LR136]

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GREG PTACEK: Okay. I'm Greg Ptacek. I'm responsible for the binder that's in front of you. (Exhibit 2) [LR136]

SENATOR DUBAS: Excuse me, Greg. Could I have you spell your name, please. [LR136]

GREG PTACEK: Okay. It's P-t-a-c-e-k. [LR136]

SENATOR DUBAS: Thank you. [LR136]

GREG PTACEK: Uh-huh. And first of all, I would like to thank the Legislature for actually putting in place LB90 that allowed me to do this amazing experience that I did this summer. I think that it is a valuable thing and I would like to see it come around, and maybe Robert can work out some of the kinks that we had this year maybe with payroll. But I would just like to see it come back next year, because I look at the things that I did for the summer. I would have never thought that it would have been here in front of the Ag Committee, but now it is, and I'd like to see what somebody else can do with it next year or in the years to come. And then I guess my second point would be why biodiesel? A lot of people like to say biodiesel is...they like to compare it with ethanol. I don't think ethanol and biodiesel are alike at all, except that they're made from biomass. I would like to say that ethanol...or that biodiesel is ethanol's "little brother," and with most little brothers, like I am, I learned mistakes from my big brother. And ethanol is the older brother by quite a lot and so there are a lot of mistakes that biodiesel can learn from. And I do think that biodiesel has a great future, especially in Nebraska with this LB626 through the AM whatever it is now. I think that is a great opportunity for Nebraska to get a niche that a lot of other states aren't looking at right now, and I think it's very progressive. And then in the soy versus corn, I know in here someplace I had a chart that says how far or how much we've lost. Let me see if I can find it. It's been awhile since I've had to look at this. There it is. It's in "Nebraska Growth," about a third

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of the way into it, it looks like this, and that is a table of the percentage of corn versus soybeans, how much more corn we're producing this year and how soybeans were affected by that. In Nebraska, corn is up 12 percent and soybeans are down 20.8 percent. And in Iowa, they're up...corn is up 13.5 percent, and down 13.3. So I hope that maybe answers your question that you had earlier, Senator Dicks...or Dierks, sorry. [LR136]

SENATOR DIERKS: That's good. [LR136]

GREG PTACEK: And then camelina in the...how Nebraska is positioned for growth in the alternative feedstocks sections, camelina is something that could definitely help the western part of the state, but I would like to urge that maybe we look at something else, like maybe research. I know a lot of farmers don't want to look at other places because they're afraid of how to do it. That's why a lot of people stick to corn, because it's what they know. So people might not venture into camelina because they don't know how to do it, so I would like to see maybe some educational programs for farmers in order to get camelina or canola. In Montana, they have...camelina has struck them. They're doing a lot of camelina there. And so I would like to maybe see Nebraska try to do that too. Because in the western part of the state, it only requires about six inches of rain, compared to whatever corn uses, and that is a pretty high end yield, for camelina it would be, at six inches. And I guess that wraps up what I really wanted to say. If there's any questions about the binder or anything, just...I'll feel free to take them. [LR136]

SENATOR DUBAS: Thank you very much. Any questions? Senator Dierks. [LR136]

SENATOR DIERKS: Yeah, can you tell me what camelina is? Is that a... [LR136]

GREG PTACEK: It's a mustard seed. I don't know. It's called false flax, if you've ever heard of that. [LR136]

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SENATOR DIERKS: Is that a...it's a legume or no? [LR136]

GREG PTACEK: No. Robert, do you know what it is? [LR136]

ROBERT BYRNES: It's a member of the Nebraska family. [LR136]

GREG PTACEK: Okay, it's a member of Nebraska family, I guess. [LR136]

SENATOR DIERKS: It's got an interesting scientific name, camelina sativa. I think it has the same last name that marijuana has, doesn't it, cannabis sativa? [LR136]

GREG PTACEK: Okay. [LR136]

ROBERT BYRNES: No relation. [LR136]

SENATOR DUBAS: No relation. [LR136]

SENATOR DIERKS: We're not talking about medical marijuana here, are we? Well, that's interesting. Is that something that's grown locally? [LR136]

GREG PTACEK: I think it can be, and it's a very low input crop too. I know it only needs 2.5 to 3 pounds an acre of seed, and then it requires very little chemicals. It's actually a very, very old crop. I think it's around 1,000 years old, so it's been around for awhile. [LR136]

SENATOR DIERKS: Huh. Well, thank you. [LR136]

GREG PTACEK: Uh-huh. [LR136]

SENATOR DUBAS: Other questions? Senator Wallman. [LR136]

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SENATOR WALLMAN: Well, he brought up marijuana. Hemp is an excellent source of oil, isn't it? [LR136]

GREG PTACEK: I...my major is political science, so I guess I can't really field the... [LR136]

SENATOR DIERKS: Spoken like a true political science major. (Laughter) [LR136]

SENATOR WALLMAN: And in the paper, one of them, was it the Des Moines Register, I think they had a...India had some kind of oil, you know, a plant with balls on it, you know, kind of like... [LR136]

ROBERT BYRNES: Jatropha. [LR136]

SENATOR WALLMAN: Yeah. Is that a expensive crop to grow? [LR136]

ROBERT BYRNES: Jatropha would do well in western Nebraska (inaudible). [LR136]

RICK LEONARD: Robert, why don't you come back up to the... [LR136]

SENATOR DUBAS: Yeah, if you want to come back up to the table, Robert, and help answer some of these questions. [LR136]

SENATOR PREISTER: Just identify yourself. [LR136]

ROBERT BYRNES: Yes, Robert Byrnes, Oakland, Nebraska. [LR136]

SENATOR WALLMAN: Yeah, thanks, Robert. [LR136]

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ROBERT BYRNES: Jatropha would do well and does very well in arid areas. It is a high oilseed producer, but it's an annual crop so would not survive our winters. Camelina sativa is no relation to cannabis sativa, for the record, but cannabis sativa does have biomass potential, both in the stalk as biomass, and would yield about the same as soybean at 60 gallons an acre. [LR136]

SENATOR WALLMAN: Okay. Thank you. [LR136]

SENATOR DUBAS: Senator Karpisek. [LR136]

SENATOR KARPISEK: Thank you. I should have asked John Hanson, but he got away. When we were out at Scottsbluff, we had a, I don't know, a slide show from the university out there on the different...camelina and things, and sounded to me like they're really doing a great job of trying to get that implemented. So I guess if they're not, we need to make sure that they are. But it sounded...I mean, we heard the same good things about it out there, but now John talked about having to go to K-State, and so anyway, I should have asked him. I forgot, but... [LR136]

GREG PTACEK: Yeah, that's who I learned from camelina from. I talked to Loren Isom, and then I can't remember who the North Platte representative was that was there, but they said...they urged me, too, that they just needed some more help too. I think they might have some staffing issues. Maybe more money there would be beneficial to them, so... [LR136]

SENATOR DUBAS: Other questions? Senator Preister. [LR136]

SENATOR PREISTER: I appreciate the work that went into it. I'm glad that you enjoyed it and found some inspiration in it as well. My question is, the bean crusher is used, can that same crusher do any of these other seeds or process or...? [LR136]

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GREG PTACEK: I know with camelina I think it might just be minor modifications that it would have to use, but then again, like I said, I'm not an expert in it. I just was a compiler. [LR136]

SENATOR PREISTER: I saw a head nodding in the back, so... [LR136]

GREG PTACEK: Okay, then it must be. [LR136]

SENATOR PREISTER: ...I'm assuming that it can, which makes it easier. Then you've got alternative seeds. [LR136]

GREG PTACEK: Uh-huh. [LR136]

SENATOR PREISTER: Okay. Thank you. [LR136]

GREG PTACEK: Thank you. [LR136]

SENATOR PREISTER: Thanks for the work. [LR136]

GREG PTACEK: Yep. [LR136]

SENATOR DUBAS: Any other questions? I thank you very much for the work. [LR136]

GREG PTACEK: Thank you. [LR136]

SENATOR DUBAS: And thank you for testifying. I'd like to introduce Senator Vickie McDonald, who just joined us. Next testifier. [LR136]

SENATOR PREISTER: Big brother. [LR136]

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SENATOR DIERKS: Uncle. [LR136]

SENATOR PREISTER: No, uncle. [LR136]

PAT PTACEK: I didn't dress up for today. I sort of forgot about this hearing until my nephew showed up, but I do want to let him know...or let you folks know my name is Pat Ptacek, that's P-t-a-c-e-k. I'm the executive vice president of the Nebraska Grain and Feed Association, and I do want to make you aware the Crossroads Cooperative did get several hundred thousand dollars to do a mustard seed to biodiesel study, some being grown in Colorado, as well as some being test grown in Nebraska. And what the status of that project is I have absolutely no idea, but I can certainly bring the committee up to speed on that when I give them a call, because it just jogged my memory when he brought up that, the mustard seed study. So I just wanted to put that on the table. And we do support the development of biodiesel, as an association and as an industry, and it's just as John said, it's just like another feed plant, especially on the by-products of the soybeans going into meal. We see that as something that is definitely comparable to and complementing of the livestock sector here in Nebraska. So I just wanted to make you aware of that one study from Crossroads Co-op. [LR136]

SENATOR DUBAS: Any questions for Mr. Ptacek? Thank you very much. [LR136]

PAT PTACEK: Thank you. [LR136]

SENATOR DUBAS: Pat, could we have you fill out a testifier sheet, please? Next testifier. [LR136]

JOHN K. HANSEN: Chairman Dubas, members of the committee, for the record, my name is John K. Hansen, H-a-n-s-e-n, and I wanted to put a little bit of cleavage there between myself and the previous testifier so we didn't completely confuse the transcribers. I am the president of Nebraska Farmers Union and appear before you

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today as their president and lobbyist. When you look at the potential of biodiesel and we think about that relative to oilseeds and the whole family of oilseeds and animal fats and all that, all the related areas that...and we think about that potential, and if we contrast that with ethanol, we look at what's going on nationally today and in the agricultural marketplace and the pull through demand from ethanol, not national farm policy, not national trade policy, has in fact created the additional value in the marketplace for corn, which has had the corresponding economic impact and price impact on all the rest of the commodities. One hundred percent of the growth of corn utilization has been through increased domestic utilization, not exports, since 1975. So when we talk about the importance of finding ways and tools and mechanisms to support these kinds of value-added activities, it really begins here at the state level and when it works best is complemented by corresponding incentives at the national level. And we are doing a lot of things in the farm bill, in the House version, also in the...working on the Senate bill which we may markup next week or not, but to try to put additional renewable energy and value-added incentives to do exactly this kind of activity, so depending on what the fallout is of the House and the Senate. We made some very good strides forward in the House. I think we have the potential to do even better in the Senate, given the players there, to do more value-added for both ethanol, cellulosic ethanol, biodiesel, all of those things. But the impact of increasing domestic utilization through ethanol, corn, has raised the price of corn a good dollar a bushel and it's brought up the corresponding values of other commodities, as cotton and wheat and grain sorghum, certainly soybeans, all the other crops have had to now bid up in order to compete for acres. And so that competition between the commodities has raised the bar. So when we look at what we can do in Nebraska, I salute the efforts of all the folks who have testified earlier today. They all know more, far more, than I do about the particulars of what we ought to do, but my organization has been along-time supporter of these kinds of efforts because this is where we really do add value and we add value in a way that creates jobs, does good things for the environment, and good things for the economy, and good things for production agriculture all at the same time. So, from our standpoint, dollars put into this area really can, in our view, be considered investments rather than just spending

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dollars. These are investments that come back many, many times. So if you take a look at ethanol, for example, and say what has been the economic impact of ethanol incentives, we just raised the price of corn \$1 a bushel and lowered the price of gasoline bought at the pump 10 cents a gallon for everybody who uses ethanol. The economic benefit to our state has just been absolutely enormous. So with that, I would end and be glad to answer any questions. [LR136]

SENATOR DUBAS: Any questions for John? Thank you, John. [LR136]

JOHN K. HANSEN: Thank you very much. [LR136]

SENATOR DUBAS: Next testifier. Anyone else on LR136? Going, going, gone. Okay, we'll close this hearing and let's take about a ten-minute break. We're a little ahead of schedule. [LR136]

BREAK []

SENATOR DUBAS: Okay, I guess we're good to go again, so we will open this hearing on LR188 to review the duties of the Carbon Sequestration Advisory Committee. I think everybody was in here before the first...for the first hearing, but just a reminder about cell phones. Please have them shut off or on quiet mode. Fill out the testifier's paper and present it to Linda after you've testified, and please state your name and spell it for the record. So, Senator Dierks, please proceed. [LR188]

SENATOR DIERKS: (Exhibit 4) Thank you, Madam Chairwoman. Members of the Ag Committee, my name is Senator "Cap" Dierks and I represent Legislative District 40. That's spelled D-i-e-r-k-s. Thank you for being here today and for your attention to my resolution. I introduced LR188 because it's time for the Ag Committee to look at the state's Carbon Sequestration Committee. As usual, Rick Leonard prepared an excellent summary on this issue. The Carbon Sequestration Advisory Committee was formed

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after legislation, that I introduced in 2000, was passed. LB957 created a task force, appointed by the Governor, to assist the director of Department of Natural Resources in creating a report for the Legislature. The committee would also recommend policies and programs to help landowners participate in carbon trading programs. I am handing out a list of the current membership of the Carbon Sequestration Advisory Committee. This is a very distinguished group of citizens, with backgrounds in the following areas: Institute of Agriculture and Natural Resources, electric generators, livestock producers, natural resources districts, the NRCS, field crop producers, ethanol, and expertise in greenhouse emissions marketing. I believe the Carbon Sequestration Advisory Committee did an outstanding job in the early years of meeting, gathering data, and promoting carbon trading. I'd also note that the committee was funded by private monies and grants. No money was allocated to them through General Funds. The Carbon Sequestration Advisory Committee still exists today in the statutes, although they do not have any funds left and have completed their initial functions. Much has changed in the world of carbon trading, and I will let others give more detail on that subject. I believe it's time to renew the good works of this...review the good works of this committee and, if necessary, give them new direction for the future. If we find that their work is done and the private sector has taken over in this area, we may look at removing this advisory committee from our statutes. Or we may decide to find some funding and have them continue their work. I'm interested in knowing what the comments are this afternoon as to that committee. Actually, after the committee was formed, I was able to sit in and partake I think three of their meetings, and they were a lively group, a group that was very well informed, and they did a great job. And today, they're still formed, but they're not getting paid for anything, so maybe we need to find some money for them, or else let them quit. (Laugh) With that, I'll end my introduction and thank you again for your time and attention to LR188. Whatever questions you might have, I'll try to answer. [LR188]

SENATOR DUBAS: Thank you, Senator Dierks. Any questions? I do have one, Senator. You have stated that the funding has kind of dried up or not there. [LR188]

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SENATOR DIERKS: It's over with, yeah. [LR188]

SENATOR DUBAS: Is it renewable? Is it something that they can pursue again?
[LR188]

SENATOR DIERKS: Well, we might ask some of the people from the committee if it's something we think can be renewed. [LR188]

SENATOR DUBAS: Okay. [LR188]

SENATOR DIERKS: The carbon trading is something that I think I heard Robert Byrnes say something about it either today or yesterday, but this is something that's available for farmers and ranchers in this country today and in Nebraska today. They have...they sequester carbon on their grasses and their trees and those carbon...those are carbon credits that can be sold and the people that buy them, I think...I may have the terminology a little bit wrong, but the Chicago Climate Exchange is the...they're the trading system that does carbon emissions. And so they're the ones we work through to sell, if we have some carbons to sell, or some company is emitting carbons and are in trouble for their carbon emissions, they go there to try to find someone that they can buy their carbon credits from. So...and I think there will probably be a better explanation of that then what I've given, but I think this is what we're looking at. [LR188]

SENATOR DUBAS: Thank you, Senator. [LR188]

SENATOR DIERKS: You "betcha." Thank you all. [LR188]

SENATOR DUBAS: Any questions? All right. Thank you. [LR188]

DAYLE WILLIAMSON: Senator Dubas and members of the committee, I'm Dayle

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Williamson, D-a-y-l-e, Williamson, and I'm chairman of the Carbon Sequestration Advisory Committee, have been since 1990, even though I haven't worked for state government for six years. I know Governor Heineman knows I don't work for state government, but he keeps reemploying me as chairman of the committee, and I'm really glad to do that because I can keep up on things as we do that. And maybe he thought, well, if I didn't get it right the first time, make sure to get it right this time. And we'll try to get it right because we're moving ahead on carbon issues. My testimony today is in behalf of the Department of Natural Resources. That's the state department that handles the housing of the Carbon Sequestration Committee and does a lot of work. And as Senator Dierks noted, as I look back on my notes, we started this through LB957. He was the principal sponsor; Senators Schrock and Wehrbein were other...the cosponsors. And starting this, it ended up in two reports: "The Carbon Sequestration Greenhouse Gas Emissions in Nebraska Agricultural Background and Potential," and "Quantifying the Change in Greenhouse Gas Emissions Due to Natural Resource Conservation Practices Application in Nebraska." As we started this, a lot of us knew very little and paid very little attention to the carbon cycle up until about that time. We appreciated Rick Leonard getting us moving on this. We had certainly heard a lot at that time about the so-called greenhouse gas problem. There were a lot of disbelievers at that time. Unfortunately, there are still some disbelievers today on the greenhouse gas phenomenon. There, of course, the Nebraska Legislature I wanted to commend for this very early effort, because it was an early effort to make us all more aware of the problems and possible solutions to the problems related to carbon dioxide in our atmosphere. And because those solutions involve both potential profit to Nebraska landowners, we were sure thinking of that in 1990, and a potential boost to soil conservation measures, which is extremely good, Nebraska can definitely benefit from future activity. Soon after that study was initiated, a number of other states became very interested in the so-called model legislation developed in Nebraska. I know a lot of requests were made to the state of Nebraska; let's use your model and start out with the state's. Fortunately, they worked. The Carbon Sequestration Advisory Committee was supported by excellent research by the scientists at the University of Nebraska, as well

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as a coalition of scientists around the...several states here. In short, we were really not stuck with recommending policy back to the Legislature without some excellent scientific backup information. We recognize that some of that scientific work would take quite a long time. It has. It continues. A brief review of the carbon issue I think is in order. Carbon is, of course, stored in the atmosphere, in the ocean. The oceans are big sinks of carbon in vegetation, and in soils and in land surface. The major carbon sinks are, of course, the ocean and soils. In Nebraska, we're very, very interested in the soil sink and storing carbon in the soil. Hundreds of years ago or before we started farming, we stored a lot with our grassland agriculture, and as we started doing more and more agriculture we released a lot of this carbon. So as we began looking at the scientific studies, it became very apparent that human activities contribute a relatively small amount of carbon, primarily as carbon dioxide, to the global carbon cycle. A lot of other things contribute much more. Burning fossil fuels, for example--I think we blame those a lot--adds less than 5 percent to the total amount of CO₂ released to the oceans and lands each year. But if we only release a small amount, why do we worry about that contribution and what importance is to the global climate change? In short, the oceans and vegetation and soils cannot consume the carbon release from activities quickly enough to stop CO₂ from accumulating in the atmosphere; thus, the greenhouse effect. As a result, the atmosphere now contains 100 parts per million more today, 380 parts per million versus 200 parts per million, than prior to the beginning of the Industrial Revolution. And as CO₂ concentration grows, it increases the radioactive force--more incoming radiation energy than outgoing--the atmosphere warming the planet. Congress is a lot busier now than it was nine years ago in considering legislation, at least being considered, that would reduce U.S. emissions of CO₂ or increase the update of CO₂ from the atmosphere, or both. There's a discussion underway in Congress to consider how land management practices, such as things we're doing here in Nebraska such as forestation, conservation tillage, and other techniques, might increase the net flux of carbon from the atmosphere to our land surface. And thanks again to Nebraska and a number of other states for pushing forward on the importance of carbon sequestration on the lands. At this point, very little carbon is removed from the atmosphere and

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stored, or sequestered, by deliberate action, and we need to take some deliberate action to sequester more carbon. I can report to you that a number of congressional proposals to advance programs to reduce greenhouse gas have been introduced in the current 110th Session of Congress. Proposals receiving particular attention would create a market-based, greenhouse gas reduction program along the lines of trading provisions of the current acid rain reduction program established by the 1990 Clean Air Act Amendments. That happened to be a very, very successful program on trading on acid rain and it worked rapidly and fast. It will take some time to get this done because things are moving quite slow on that. In 2001, when President George W. Bush rejected the Kyoto Protocol, he also rejected the concept of mandatory emission reductions. Since then, the administration has focused U.S. climate change policy on voluntary initiatives to reduce the growth in greenhouse gas emissions. Many of those proposals could affect Nebraska landowners and their opportunity to earn returns from selling credits for carbon sequestration. The proposal to advance the reduction of greenhouse gases have followed one of three tracks this year. The first is to improve the monitoring of greenhouse gas emissions to provide a basis for research and development, and that's a very important one, and for any future reduction scheme. The second one is to enact a market-oriented, greenhouse gas reduction program along the lines of trading provisions, and I'll mention some of those and other speakers will also, as pointed out, similar to the current acid rain reduction program established. The third is to enact energy and related programs that would have the added effect of reducing greenhouse gases. This proposal falls under the renewable portfolio standard. Nebraska's landowners have had the opportunity to respond to this legislation and potentially they can profit from it so...but, as I pointed out, I think things will go rather slow on that, but it is important. What does carbon sequestration mean to Nebraska? Because we want to talk about that. First, it obviously means wherever...whatever benefits the carbon reduction would mean on a worldwide basis, we want to take a little share of that. It would mean Nebraska doing more of its part in trying to help with that reduction. Second, it may mean better soil conservation in the state and that's always good. Those measures to conserve soil are also believed to also have good effects on carbon

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sequestration benefits. This makes carbon sequestration potentially a win-win situation for conservation in Nebraska. It may also mean a reason for more trees and other vegetation, since plants sequester carbon. However, the immediate benefit may be a monetary benefit, and that's certainly what we were looking at in 1990, and that has developed during the last...I mean, not in 1990, in 2000, that has developed in the last several years, benefits to selling carbon credits for agricultural carbon sequestration practices on their land. This has happened already in Nebraska and in a number of other states, and even though there is no cap-and-trade mechanism in place that would provide a major basis for such credits, such a cap-for-trade mechanism, if that ever became law, which I think at some point it will, one might expect higher payments to landowners in future contracts as it is a significant number. A number of Nebraska acres are already enrolled in such programs through the Iowa Farm Bureau and the Nebraska Farmers Union. As of last November, the Iowa Farm Bureau program record showed 720 participants with this, with 550,000 acres. At that time, the Farmers Union had 70,000 acres enrolled in Nebraska. And I know John Hansen will be commenting in more detail. That was a new program and it really went well. There's currently at least some question about the amount of sequestration that can occur on agricultural lands. As we made our report, the committee made their report on LB957 in December of 2001, we were quite positive on the amount of sequestration that could occur. At that time, most of the research supported substantial sequestration from conservation practices. However, over the past several years, some of the research done at UNL, and it's very extensive research conducted by Shashi Verma and a whole host of researchers, and along with other states, sequestration has been rather slow at the Mead site but we are making some gains there. But it's rather slow. The good news, of course, is it's kind of...it's holding its own. So really, the benefits of no-till on soybeans and corn, it may take awhile to show up, but it still has some potential and that research will continue. No-till sequesters about a half ton per acre per year, and at the current prices from the Chicago Climate Exchange, are about \$3 to \$4 per ton. That would mean \$1.50 to \$2 per acre, and I think, you know, that will no doubt increase as we learn more and more about it. Trading has really picked up on the Chicago Climate

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Exchange from 200 members to 300 members of the exchange as they provide funds for this. And we also know California recently passed...Governor Schwarzenegger has been very active in this whole issue and he recently signed a bill to reduce greenhouse gases in the state by 25 percent by 2020. Of course, California has some big problems there. They have a mandatory law in California. They're kind of moving ahead of the rest of the nation. Three hundred college presidents and university presidents have also signed commitments to make their campuses carbon neutral, so that's another thing. And it will be an interesting year in 2012 when the Kyoto Treaty expires and we'll see where we move then throughout the world. Going to the question of the resolution of the study here whether or not to keep the committee effort is really a tough one and one the committee has even dealt with over the past several years. As Senator Dierks pointed out, the committee was not funded from state funds. We had Environmental Trust Funds and other things. Committee did not take a lot of funding. We have private citizens on the committee, provided for their travel and so on, and we had to provide for some studies and a few things like that. It didn't take a lot of money. The university has provided an excellent web site. Some of the information on the web site, getting the publications and so on, does cost a lot of money and they're sort of getting out of business on that; as they've been able to keep it up, but they're pulling that effort back on the web site. So those are some of the things that we've looked at. The reasons to keep a committee going in the state, carbon seems likely to be as much or more of an issue in the future as it is now. The cap and trade eventually will be passed at the federal level, I am sure, and no doubt we'll have to look at some mandatory legislation. There may be far more activity. With the over 700 carbon contracts in Nebraska landowners, it's nice to keep up on those, and we know those will expand. There's a lot of enthusiasm about doing that. University of Nebraska research studies and other states around us, Kansas and so on, research studies are continuing to move to see how cropland, grazing land, and forest land sequesters carbon. Committee meetings have been consistently interesting, only though we have called about one per year, but it's always been a very good thing. And a point that we put in the testimony here, a sequestration committee, and I like this point, gives us sort of a national guard. It's kind

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of on-call. When the issue comes along and something big happens, we have a committee to go to work on it. Reasons not to continue have already been mentioned. It takes a little bit...it should take a little bit of funding, and there's been no funding since the two reports have been complete. There's really not an additional duty assigned to the committee, so that may need to be done if the committee were to continue. And I've already mentioned that the university has been hosting an excellent web site. It's been taking out of one of the professor's budget over in Ag Economics and he's informing us that he's got to really pull back on that, with some of the cuts that they've had. Well, in summary, it's...there's much...there's a lot...a much better understanding of carbon sequestration, the importance of that, and how we can sequester carbon than there was when we started this effort suggested by Senator Dierks nearly seven years ago. With research accomplished during the past few years, the outlook for sequestering carbon on cropland may not be as good as we had hoped in 2000, however, research really has to run its course and a lot of good research is going on. The good news, though, with proper land treatment that at least carbon is not being lost to soils, as it was for many years during the thirties and forties, and some gains are expected by many researchers, although that idea is not complete and unanimous. Many people are now convinced that net carbon increase of CO₂ in the atmosphere will continue unless action is taken, and I've already mentioned that the net flux of carbon in the atmosphere hovered around zero for nearly 10,000 years. I don't know how they measured back that far, but human contribution has really jumped that up in the last 100 years, and so we see a big change. The thing is, that one city and one state, the state of Nebraska, or, for that matter, one nation, the United States, cannot do this job alone. It's a really big job and it has to be tackled worldwide, and that's a big problem and that's why I say it will take a long time. But Nebraska, with all our growing crops and certainly a potential to do some woodland crops, I think we still have a good potential and I commend the Legislature for certainly being leaders in this and pointing out the interest nine years ago as it was started thinking about it, and then taking action in the year 2000 to move forward on this. So that concludes my testimony, and a pleasure to have an opportunity to summarize this. [LR188]

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SENATOR DUBAS: Thank you, Mr. Williamson. Are there questions? [LR188]

SENATOR DIERKS: I might. [LR188]

SENATOR DUBAS: Senator Dierks. [LR188]

SENATOR DIERKS: Dayle, you mentioned funding from the trust. Was there any other place you got some funding? [LR188]

DAYLE WILLIAMSON: I think there was and I can't remember the exact place, but it was basically the trust, yeah. [LR188]

SENATOR DIERKS: Uh-huh. And you think there's a definite need for the continuation of the committee. [LR188]

DAYLE WILLIAMSON: Well, I think the committee may need a new charge, you know, and we'll have to give that some thought, but I think it's nice to have a committee to keep sort of abreast of this and keep everyone looking at it, and now that we have groups out there providing information to farmers, why they should sequester and doing that, I think that's a good thing for the committee to work with also, because we have both the Farmers Union and the Farm Bureau working hard on that, and I'm really pleased with that. [LR188]

SENATOR DIERKS: Thank you. And thanks for your good work, Dayle. [LR188]

DAYLE WILLIAMSON: Well, it's been my pleasure. I've learned a lot about carbon sequestration. [LR188]

SENATOR DIERKS: Can you spell it? [LR188]

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DAYLE WILLIAMSON: I can't spell it. (Laughter) [LR188]

SENATOR DIERKS: I can pick on Dayle a little bit. We were classmates in college. [LR188]

DAYLE WILLIAMSON: That's why I can't spell. I depended on him. [LR188]

SENATOR DUBAS: Are there any other questions? I guess I would like to just kind of follow up on what Senator Dierks just asked you as far as funding goes. Is that something that your committee has looked at, as far as other sources of funding, or is that even in your job description to look for funding? [LR188]

DAYLE WILLIAMSON: We have not looked at other sources because we've been treated quite well by Dr. Gary Lynne out at the university. He's spent quite a bit of money keeping his web site up and all at once he says, I can't do it anymore. So we've really appreciated his web site because he's had interns and so on keeping that up. And, you know, we're not talking about a lot of money, but it was probably a couple, three thousand a year that...because some of the publications...for carbon sequestration, some of the publications, these scientific publications, cost a lot of money, yeah. When I say a lot of money, it isn't like buying Newsweek. (Laugh) [LR188]

SENATOR DUBAS: Okay. Thank you. Next testifier. [LR188]

JOHN K. HANSEN: (Exhibit 5) Chairman Dubas, members of the committee, for the record, my name is John K. Hansen, H-a-n-s-e-n. I am the president of the Nebraska Farmers Union. I appear before you today as their president and also their lobbyist. We are one of the two farm organizations that are aggregators and marketers of carbon sequestration in the state of Nebraska. The Iowa Farm Bureau, who's been at it the longest, also do an excellent job, and National Farmers Union and all the various

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Farmers Union states. We work with the North Dakota Farmers Union, who has been the lead state organization to...who has a membership on the Chicago Climate Exchange, has a lot of in-house capacity and expertise in carbon sequestration marketing and administration and all of those things. We contract with them to actually administer the program, so we are an aggregator and marketer. So from our perspective, and we've been involved in this process I guess since the beginning, would like to make several observations as kind of an historical supporter of this effort, but also as a marketer. When I look at...the handouts, before I get to that, the handouts that I gave you are...maybe I ought to spend a minute on. This is just the...I just took a shot off the web page today to kind of give you an idea of, you know, kind of the quick summary of the different kinds of ways to get paid to sequester carbon. If you're an agricultural producer, you can do no-till, and no-till provides you, if you're...as long as it's cropland and program cropland and you continuously no-till, that's one option. The other option is if you have program acres that you sow back to CRP, there's payment for that. Or if you're taking crop acres and sowing it to legume. So that's the primary one that's used. That's the no-till. There's also a new practice in Nebraska, a native rangeland and rangeland management. There's a couple different subsections of that, regular and degraded rangeland. That deadline for the first batch of carbon to be aggregated is October 1. The sign-up deadline for the other is...was, in fact, September 15. The third and fourth ways have ongoing deadlines so there is no fixed deadline. These are different kinds of applications, and that is for forestry, regenerated or newly planted trees after 1990, so that is a, we think, in Nebraska kind of a sleeper. We're going to be trying to do a lot more on that over the winter months, trying to do more education and outreach on that, because there's a lot of new shelter belts, a lot of new pivot corners, a lot of those kinds of projects that go on all the time. As you know, we have a very substantial tree planting program in the state of Nebraska. We have all of the Clarke-McNary nursery out at Halsey. We have a very effective statewide network of tree planting incentives through the natural resource districts. And so a lot of those acres, even though they're not large, because of the nature of the carbon program for forestry, allows those producers to get a pretty substantial per-acre credit. And so if

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that's one little additional incentive that you can do while you're doing it anyway to help encourage tree planting, you know, the same question applies to that as rangeland management or the methane offset or the no-till. If you're doing it anyway and you're eligible, why wouldn't you do it? We call it the bingo question. So when producers finally understand that if you're already doing things this fashion anyway and you qualify, why would you not sign up for this program and get an additional payment? The other program which is available is the methane offset and our experience in that so far is very, very limited nationally and even more limited in Nebraska. But what we're finding is that an awful lot of the folks who have built hog confinement facilities, including some ones that you're familiar with in Nebraska, when they check into the possibility of getting a methane offset for their facility, which is set up to do and especially if you're looking at electrical generation as well, that a lot of folks have found out that they no longer own their own carbon credits relative to their hog confinement operations. So this is...we're going to have to do a better job of educating folks when they're doing the up-front building of their facilities so that they think about this as a potential economic option to them so that it is available to them so that they can utilize it. And we've ran into the same issue in other states as well where the producers, when they finally decide to do it, find out that they're not able to do it because they don't own their own methane offset carbon credit eligibility. So in Nebraska, the big news...well, let me just walk through this packet quickly. It is the standard Q&A that we have, it's like a five-pager. It gets down to the basics of, you know, what's the concept, who buys the carbon credits, all of the basics, a lot of which are a lot quicker for you to read. If you have questions, I'll be glad to try to help answer them, but if you get through the Q&A, which is what we tell producers all the time, if you read the standard Q&A you're going to be able to ask a lot better questions but it's also likely that you're going to ask a lot fewer questions, because most of the standard questions we get are answered by just this simple Q&A. And the last piece that we handed out today was the press release deadline on the September 15 extension. One of the advantages of having farm organizations who are aggregators of carbon, and this is why we appreciate the Iowa Farm Bureau as a marketing and aggregating partner, is that they are tied back into production agriculture

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and they do know what's going on and it's not just...this is primarily a service. This is not a huge moneymaker. This is providing a new additional way for farmers and ranchers to get compensated for being good conservationists and for the things that they already do, but it is not a huge moneymaker. But when you see, for example, the level of interest in Nebraska because of the increase in rates that went from last year to this year and the expansion in coverage of...the entire state is now covered by no-till, the new practices, all of these things generated a lot of interest and also a lot of confusion at the junction. And so if we would have cut off deadlines October...August 15, there would have been thousands and thousands of acres in Nebraska that would not have been signed up. And the advantage of that extension has made a huge difference in the total sign-up acres in Nebraska, for example. And the other thing that...because of, you know, one of the reasons that we do this is we want to make sure it gets done right, is that the two farm organizations came together with the Chicago Climate Exchange and said, you know, if we're documenting carbon sequestered and we need to do physical inspection, if you go out and you look at a no-till field you can still see last year's residue on the surface, so why wouldn't we give last year, in the case of no-till, credit for sequestering carbon as well if they qualify? Well, gee. And so together we were able to get that practice adopted so when folks signed up for September 15 this year they were able to not only sign up their 2007 carbon but they were able to go back and sign up their 2006 year carbon also if they were eligible, so a big additional benefit to producers. So we, because of that, we had a lot of efforts in the rest of August and September, including the State Fair and Husker Harvest Days. But here's the press release that we put out in April, which is about ten times longer than a press release ought to be, but we needed to do it for the press's sake so they could call up with better questions as well. But here are all the zones, here are all of the rates, here are all of the practices in the state of Nebraska, including all of the counties. Everything that you ever really wanted or needed to know, including the map of the state for the no-till and all of those things, is in there, along with a sample contract. Also the new rangeland soil carbon management from the Chicago Climate Exchange, as well as again the new list of counties and rates and maps for the different practices with that, along with the forest carbon emission

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offsets from the Chicago Climate Exchange, and also the agricultural methane emission offsets from the Chicago Climate Exchange. And we also stuck in there the renewable energy emission offsets, along with where to go to get additional information. And we have also had our insurance agents, as well, helping us answer questions and help folks sign up for this. As we look at where we go forward and we look at what the advisory committee has done in the past, it was to create the help...do the things necessary in order to gather the information to help justify, if appropriate, the development of a market for carbon. That has happened, and in no small part because of the pioneering role that Nebraska played. So pat yourselves on the back for that. But now that the market is established and is functioning, it seems to me that the needs and the role of the committee should change appropriately based on that new reality. So do we still need to do research? When I look at the kind of the four primary things that were lined out for the committee to do, it seems to me that some of the things that we still need to do is to accurately document the actual carbon sequestration rates for various crops and various cultural activities in the entire state. So from a research standpoint, from the University of Nebraska's standpoint, the fact that we have now spread the carbon sequestration program eligibility across the entire state, it is important to have this kind of data because we do need the rates to be accurate. If we want this program to be sustainable over time, it must be based on sound science. If we're doing things that are not scientifically based and are not grounded with good research and data, we will get this new fragile market in trouble. We don't want that to happen. So we want to be aggressive, but we want to be clearly well-researched and documented. So in the Chicago Climate Exchange panel of experts and scientists, they gather information from the various land grant colleges and all of the rest of the data in order to try to help them make decisions, so some of the research that the University of Nebraska has already done was very helpful to us in that regard in helping us establish an expansion of practices in Nebraska. So of this last year, the changes in the program, Nebraska was one of the biggest single winners in the nation in terms of expansion of territory and practices and rates. So the research for all of those things, including some new practices, I think that there is a legitimate case to be made for wet lands restoration and

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certainly the pothole states of the upper Midwest, Nebraska, we have a lot of wet lands but also restored wet lands as well. That's, per unit area, a big, big sequester and a big sink for carbon. There's an ongoing issue with the organic farming community about, yes, we do tillage but we also do a bunch of other things, and cropping patterns and other things, that more than offset the stirring of the soil and opening the soil up and so the organic community continues to argue, in a lot of cases, that they ought to be given more credit. Because right now, if you're an organic farmer and you use tillage instead of chemicals, you're out the door because you're using tillage, period. So is that a legitimate claim? If it is, we need to be able to document it, and there's certainly no reason to exclude or penalize organic farmers if, in fact, they are eligible for sequestered carbon. And then there's, in our view, the need for alternative crops and we certainly, in some cases, could be planting different drops in rotation that would sequester more carbon than some of the crops we're using now. Soybeans does not sequester any carbon, not much; corn does. So in the corn/soybeans rotation, corn puts us ahead, soybeans, you know, we break even at best, and then you move ahead, and then you break even. So if you're using wheat and corn, for example, that particular rotation is going to give you a different rate. So in some of these cases, in order to actually do what we need to do, we're going to need more research on cropping patterns and sequestration rates for those different crops. As to the makeup of the committee, it seems to me that as you look at...the committee makeup needs to be kind of rethought, but at a minimum we now have rangeland. So we ought to have rangeland management experts as a part of the committee because we have a rangeland management practice. We also have two carbon sequestration marketers in the state, so it seems to me that we are where the rubber meets the road. We're actually out trying to explain carbon sequestration to producers and we see the problems firsthand, so it seems that, you know, we are a part of that market. So it seems the marketers, at a minimum, ought to be on the committee. And past that, I just think that, you know, I am willing and looking forward to hearing any other ideas that the committee or folks from the Carbon Sequestration Advisory Committee might have about what they see their role in this new, better, and changed environment. With that, I'll end my testimony,

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answer any questions if I can. [LR188]

SENATOR DIERKS: Thanks, John. Are there questions for John? Maybe I'll ask you a couple questions, John. If I were to come to you and say I'd like to look into the possibility of selling sequestered carbon, what has to happen? Is there some appraiser that comes and looks at my place and goes over it inch by inch to see how much we sequester? How does that take place? [LR188]

JOHN K. HANSEN: The Chicago Climate Exchange does inspect about 10 percent of the total no-till acres and to make sure that they are as they should be. [LR188]

SENATOR DIERKS: Do they... [LR188]

JOHN K. HANSEN: The marketers also do an internal audit, which we're already in the process of doing, and they've already started, after the sign-up date, to try to check all of your FSA documentation in the case of no-till or all those things; you know, have you...just checking the basics--have you...do your crop...do your cropping, your FSA 578 form and your program maps match up with what it is that you said that you've done in the past and why you're eligible; all of those kinds of things. [LR188]

SENATOR DIERKS: Does he know, for instance, just by looking at the, say, the aftergrowth on a hay meadow? It's a foot high and got a few...some legumes in it. Does he know by looking at that how much that will sequester, or does he have to do some testing or...? [LR188]

JOHN K. HANSEN: He knows in that particular geographic area what the approved rate is. [LR188]

SENATOR DIERKS: I see. [LR188]

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JOHN K. HANSEN: And they look to see. In the case of the rangeland management, which is a brand new practice, we are just really feeling our way forward into what you need to do, but a lot of that is involved in more intensive grazing. So we have a lot of issues relative to doing the kind of grazing patterns and management practices that generate more carbon sequestration than just turning your cows out and letting them run for the season. And then we run into issues relative to eastern, central, and western rain belt patterns, and some folks in the western rain belt say, so if we do intensive grazing, how can we tell? When it doesn't rain, it does make any difference whether we do intensive grazing (laugh) or not, because there's only so much rain and, you know, the grass is going to come back if it rains and it won't if it don't. And so if we do intensive grazing, it may work in the eastern grazing belt where you do intensive grazing, you have adequate rainfall, and things grow back faster and you sequester more carbon. But their argument in the western end of the state is why are we doing intensive grazing if, in fact, there's not enough rain to start with. We sequester what we sequester based on rainfall. [LR188]

SENATOR DIERKS: So if you're accepted into a program, they're going to pay you for the carbon you sequester, is that's something that's renewed every year, or is there something where they come out and examine how you're treating the product within...to see if you're overgrazing? Is there policing going on? How does that work? [LR188]

JOHN K. HANSEN: A lot of the practices, a lot of the things are self-reported. You describe what your grazing management plan is and so a lot of folks have a written management plan and they turn that in; say, here's how we do it, here's...in that case. But the period is run from 2005 to 2010, so this is the first experimental period for the Chicago Climate Exchange. It is a test run and so our hope is that the success rate will be good enough, and so far it looks very good, that the Chicago Climate Exchange will say, okay, once we get to 2010 we'll extend that period for carbon sequestration for agriculture. And so when you sign up, for example, you're saying that you're going to do this practice from whatever year you sign up and are eligible for through 2010. [LR188]

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SENATOR DIERKS: I see. [LR188]

JOHN K. HANSEN: And so you're saying that you're going to sequester carbon during that period of time. [LR188]

SENATOR DIERKS: Okay. [LR188]

JOHN K. HANSEN: And so there's some folks who would say, well, I don't know, I might decide to go, you know, plow, (laugh) or disk or whatever, so I just don't want to do it. And if they're in that situation, fine. Other folks feel...have been no-tilling, continuously no-tilling for a long time, feel very comfortable with that. They, now, you know, I don't own a plow. (Laugh) I'm not going to take up plowing or disking again. So you have, you know, it's what your comfort level is, but if you're doing minor improvements or changes or tillage where you have ditches that need to be plowed in or into the field where you need to take a disk and cut the outside of the field because you've got brome encroaching from the sides, or some situation like that where it's a smaller acreage, there's a certain percentage of the total payment which is held back during that contract period just to allow producers to do those kinds of normal cultural practices and it's held out. If you do it, you report it. Fine. You know, you're still within your parameters. And then at the end, if you do it, it's held back because it was already there to be held back for the contract period. If it's not, you get all of that money. So there is an internal percentage that's kept back just for those situations if all of a sudden you violate the contract and you say, well, I've just...this no-tilling business is just stupid; I'm going to go back to full tillage, and you make that management decision, then you would need to pay back the carbon sequestration payments that you have gotten in the past to do that, and you would probably have to also pay an interest penalty. That's my understanding of the penalty process. [LR188]

SENATOR DIERKS: Thank you. [LR188]

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JOHN K. HANSEN: Yeah, if that answers your question. [LR188]

SENATOR DIERKS: Yep. [LR188]

SENATOR DUBAS: Any other questions? Thank you, John. [LR188]

JOHN K. HANSEN: Thank you very much. Good luck. [LR188]

SENATOR DUBAS: Next testifier. [LR188]

ROBERT BYRNES: Good afternoon. I'm Robert Byrnes from Oakland, Nebraska. Name is spelled B-y-r-n-e-s. It's a privilege to address the committee once again regarding carbon credits. I think the sequestration process of carbon has been well-documented by previous testimony. I would also describe that as kind of a passive process. This is a natural process that's occurring. People are not involved in this process per se. This is nature running its course. It's grabbing atmospheric carbon dioxide, putting it into the soil. It does not discriminate between new carbon or old carbon. It's going to grab any carbon it can get its dirty fingers on, or however that works. There is another aspect, and as soon as I heard Mr. Williamson ask for a new charge for carbon credit, my ears perked up because it has arrived, and that is the renewable energy aspect. I think John alluded to the methane credits that are coming down the pike, but I would like to discuss these options because these are what I call the more active options in that this is a process of taking a new carbon derived biomass source, whether it's wood or cellulose or stover, corn, animals, whatever. Anything that has undergone this carbon sequestration process is then converted into a material which would then directly replace utilization of an old carbon fuel or energy source, like electricity, like gasoline, like diesel fuel. Okay, so if I use...if I produce a gallon of biodiesel, that theoretically is a gallon of petroleum diesel that's not being used. That's a gallon I didn't have to consume. Or in the system, that same balance is taking place. We're going to use 120

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billion...million gallons a day, or whatever it is, of fuel. If 30 percent of those are from new carbon sources, that directly replaces that consumption of those old carbon fuels, and that is the basis for the green tag or carbon credit trading in regards to renewable energy. And, like I say, these things are coming. There's...it's not available for ethanol right now, so in places of renewable energy production where it's not being granted, it's only because there's a lack of research. There's a lack of documentation of what actually is happening in this conversion, this biomass conversion process, and how that adds up to tons of carbon. For biodiesel, that has recently been calculated and it, right now, with \$4-a-ton carbon, we're looking at about 3 cents a gallon for biodiesel. And I had the opportunity to present...there is one plant in Gering, the WyoBraska plant that I mentioned earlier. They have signed a contract and are getting ready to be the first ones to bring this money into the state. I had the opportunity...ours...I actually presented it to Scribner earlier, but, you know, when you tell a bunch of farmers that they're going to get paid \$150,000 a year for air (laugh) there's a certain sense of disbelief. The Brooklyn Bridge comment came up. (Laughter) So we've got...they've taken a more prudent approach through the legal avenues of contracts and all that stuff. But this is coming and this is a way that the private industry...the value that a free market places on this product can reward those producers of those products. There's no government incentive. There's no government involvement in this at this point and this is the free market at work. This is a good example of it. For wind, renewable electricity, which includes methane, 4 cents a kilowatt, okay, is the number I'm hearing right now. For smaller wind turbines we're hearing total buyout for the lifetime of the turbine. So if you're looking at a \$10,000 investment and you can get two grand off up front and sign away your carbon credits, that's a big chunk. Okay? So this is a fast-developing market and it's taking place in two ways. It's taking place through the aggregation, like John is doing, Farmers Union, and hats off to them. I was at the State Fair ten days, too, and, you know, it's a grueling deal if you're there every day, and I have a lot of respect for the work they're doing on this. But they're aggregating carbon credits and they're routing it back through the Chicago Climate Exchange. There is also a cottage industry that is growing whereby folks who are interested in their own personal carbon consumption

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can go to a web site, and there are a number of these that are out there in existence right now, and they can say, well, I drive 30 miles back and forth to work every day, and this is my electrical bill, and this is the kind of car I drive, and blah, blah, blah. And there's a carbon calculator and they can calculate their personal carbon footprint. And they go to this company and say, okay, well, I need to pay you, buy air...here we go ahead, I need to buy your air; my air is dirty air, I need to buy your air at X many dollars. And you get a little certificate and a bumper sticker or whatever, and this is all verifiable gallons. These people who offer these gallons or these carbon credits have verified sources and blah, blah, blah. And that was what I would also offer as a new charge for this committee, is the verification process. We have things going on in Nebraska right now that we can receive carbon credit for: biodiesel, wind, methane, all over the place. But there's a verification process, third-party verification process, that's required to ensure this is a self-policing industry and it's very important that, you know, it's a transparent and verifiable process. So verification and research is needed to advance not only the sequestration issues that we've talked about but also carbon credits for ethanol. Let's bring that money into the state; for biodiesel, we're just at the cusp of that. I don't know how biodiesel beat ethanol, but...now wind and methane, solar, okay, those are all things we can do right now. These are good things we can do but, you know, we have to, again, keep it in perspective. You know, tons of coal are being burned in the state every second, okay? Eighty percent of our electrical power comes from old carbon. So, you know, you know, it's...we keep that...you know, that needs to stay in the picture as well. By the way, just to touch on algae again, this old carbon from power plants that's spewing out of the stack, some of the researchers have taken the CO₂ and entrained it into algae production farms and enhanced photosynthetic growth through the enhanced carbon dioxide presence. That's all I wanted to say on that; that this has a potential of a fantastic new market. Doesn't cost anything to the state taxpayer, rewards renewable energy producers for their production. You know, that money is coming from somewhere and it's coming into Nebraska. I would also warn...I know, Senator Dubas, I think you were involved in the legislative warning that came out to landowners regarding wind rights. I know we handed a lot of those out at the State Fair. But I would also say

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these same schemes are coming around for methane credits, as John had mentioned. Methane credits actually have a higher, much higher, value than carbon credits. Methane is a much more potent greenhouse gas, in about 200 to 1, so the value of methane gas, as methane gas, is actually much higher. What I'm hearing is that livestock producers are being sold...they're selling their green tags, or their carbon credit rights, to the methane developers who are coming in, putting a cover over these lagoons, flaring off the methane, and getting all the money. So just as in anything where you sell developmental rights on natural resources you may or may not understand, we have to exercise caution and it would...that would be maybe a third, and I've heard that already, that the Carbon Committee could engage in education and awareness so when these people knock on the door that people are prepared. [LR188]

SENATOR DUBAS: Thank you, Mr. Byrnes. Questions? [LR188]

SENATOR DIERKS: Sure. [LR188]

SENATOR DUBAS: Senator Dierks. [LR188]

SENATOR DIERKS: Robert, do you have any suggestions about funding for the Carbon Sequestration Committee to keep it in existence? Do you know of anything out there that's available? [LR188]

ROBERT BYRNES: Well, there's grants available all over the place, but, you know, it's a one-shot deal and you end up in cycles like this. I think an actual activity, a beneficial activity to this economy in Nebraska, would be third-party verification of these processes. A lot of these plants require it. The aggregators would, you know, especially if they're out-of-state based, would jump at the chance to have someone local to do the verification process in the field. I've been approached to do this. As a service, the committee could provide that service at a fee that would go toward helping it self-sustain. [LR188]

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SENATOR DIERKS: Third-party verification. Okay. Dayle was asking about some suggestions and I thought maybe this would be one of them. [LR188]

ROBERT BYRNES: Yeah, I mean I'm sure there's some grant avenues, but, you know, grants tend to...it kind of could be a feast or famine kind of lifestyle. Something that, you know, is an activity beneficially, scientific research, verification, in-the-field processing, I'm sure they could be...find something that would help to level out that funding. [LR188]

SENATOR DIERKS: Okay. Thank you. [LR188]

ROBERT BYRNES: Yeah. [LR188]

SENATOR DUBAS: Other questions? Thank you, Mr. Byrnes. [LR188]

ROBERT BYRNES: Thank you. [LR188]

SENATOR DUBAS: Next testifier. Anyone else? If not, we will close the hearing on LR188. Thank you very much for coming. [LR188]