

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

[LB557 LB598]

The Committee on Natural Resources met at 9:15 a.m. on Tuesday, March 5, 2013, in Room 1525 of the State Capitol, Lincoln, Nebraska, for the purpose of conducting a public hearing on LB557 and LB598. Senators present: Tom Carlson, Chairperson; Lydia Brasch, Vice Chairperson; Annette Dubas; Ken Haar; Jerry Johnson; Rick Kolowski; Ken Schilz; and Jim Smith. Senators absent: None.

SENATOR CARLSON: Welcome to the Natural Resources Committee. I'm Tom Carlson, Senator from District 38, Chair of the committee. And I want to introduce the members of the committee. Not in his seat yet, but to my far left will be Senator Rick Kolowski from Omaha, District 31; then next to him is Senator Ken Haar from Malcolm, District 21; next to him, just coming in the door, is Senator Jim Smith from Papillion, District 14; then Senator Ken Schilz from Ogallala, District 47. To my immediate left is Laurie Lage, our committee counsel; and to my far right is Barb Koehlmoos, our committee clerk. And then next to her, Senator Lydia Brasch from Bancroft, District 16, Vice Chair of the committee; next to her is Senator Jerry Johnson from Wahoo, District 23; and then Senator Annette Dubas from Fullerton, District 34. And our pages for today, Rachel Bauer from Ogallala. Would you stand up, Rachel? All right. And Sabrina Buckwald from Lincoln. They're serving as our pages today. Today, we have LB557 and LB598 that we will have a hearing on. Those of you that are planning to testify, make sure that you picked up a green sheet at either door and have that filled out before you get into the chair to testify. And if you don't wish to testify, but you want your name entered in the official record, there's white sheets back there to sign that would make you a permanent part of the hearing. When you come forward to testify, put your sheet in the little box over here near our clerk. And if you don't want to testify but want to submit something in writing that would be read into the official record, you can do that. So you have the option to do that. When you do come to the chair to testify, leave the microphone alone because it's sensitive and it will pick you up whether you're sitting like I am or whether you're leaning back in the chair because you don't want it to pick up, and if you whisper, it's going to pick it up anyway. So you can just leave the microphone where it is and it will make things work fine. Give your name and spell it as you begin your testimony. And if you don't, I'll stop you and have you do that to make our records complete. If you have handouts, we ask you to have 12 copies so that they can be handed out to the members of the committee and we have a few extra. And if you don't have 12, the pages would help you get 12 today, so call on our pages. The committee does not use any electronics during the hearing and so we'd ask you, turn off your cell phones or put them to vibrate or silence so that we don't have disruption that way in the course of the hearing. I don't think we're going to have a problem today, but we don't allow any vocal displays of support or opposition as somebody testifies and we keep everything civil in that manner. We do have a light system and we'll see how closely we stick to that, but as you sit down to testify, other than Senator McGill and Senator Larson introducing the bills, the green light comes on and gives you four minutes; then

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

the yellow light comes on and you've got one more minute; and then the red light comes on and try and wind up your testimony at that point, and then I won't have to step in and ask you to stop your testimony. How many of you are...on LB557, Senator McGill's bill, how many of you are testifying today? One, two, three, four, five. Okay. Six, with Senator McGill. Appreciate that. And are there any questions before we begin? Okay, seeing none. Senator McGill, welcome, and you're recognized to open on LB557.

SENATOR MCGILL: Thank you, Chairman Carlson and members of the Natural Resources Committee. I'm State Senator Amanda McGill, A-m-a-n-d-a M-c-G-i-l-l and I'm here to introduce LB557, a bill that creates a structure for community solar gardens in Nebraska. A solar garden is a solar electric array with multiple subscribers connected to the utility grid. The subscribers may purchase a portion of the power produced by the array and receive a credit on their electric bill. Utility customers within the solar garden service area, including residences, businesses, local governments, nonprofits, and faith-based organizations, can all subscribe to receive the solar energy. There are many advantages to solar garden projects. Renewable energy represents the biggest business opportunity of the twenty-first century. Nebraska does not utilize a great deal of solar energy, however, and LB557 would be a step in the right direction. Generating homegrown energy on empty city lots, abandoned landfills, and other sites will keep more of our energy dollars here in Nebraska. Investing in concepts like solar gardens will also help us build a talented work force. The renewable energy field continues to grow in many states and I do not want to lose those talented professionals to other states that have prioritized this type of renewable energy. A community solar garden creates an opportunity to invest in solar energy for many people who are unable to install solar plate panels on their own rooftops. Maybe their roof is the best place to put panels, is not facing the direction of the sun, and so it's not practical for them to use this energy on their own. I've had the privilege of working with many local experts on this issue and some of them are here to testify today. I am very new to this area of the law and learning more about renewable energy, so these experts will be much better positioned than myself to respond probably to most of your technical questions, but I appreciate your consideration and look forward to the hearing. [LB557]

SENATOR CARLSON: Okay. Thank you, Senator McGill. Any questions of the committee? [LB557]

SENATOR SMITH: None at this time. [LB557]

SENATOR CARLSON: None at this time. Are you going to be here to close? [LB557]

SENATOR MCGILL: Yeah. [LB557]

SENATOR CARLSON: Okay. All right. Thank you. All right, we're ready for proponents for LB557. Welcome. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

JOHN ATKEISON: (Exhibit 1) Good morning. Thank you. Good to see you again. I'm John Atkeison, J-o-h-n A-t-k-e-i-s-o-n, with Nebraska Wildlife Federation. Thank you, Senator Carlson and members of the committee. Nebraskans have begun to adopt the new lower-cost, higher-tech solar electricity generation systems, and some want to use it differently and organize it in a new way. LB557 is one expression of this ambition. Because this bill legitimizes Nebraskans banding together to produce what they need, it seems to fit very well with our populist public power tradition. Nebraskans are realizing that the old saw is no longer true, the one that says solar electric is really nice and everybody likes that it's so clean, but it's just too darn expensive. Well, not anymore. We are just entering the era where rooftop solar on your home or your business, the photovoltaic arrays, it's competitive now with the retail price of electricity even here in Nebraska. Not every time or in every place quite yet, but this will increasingly be the case. One of the features that many people are not yet aware of is how high-tech and user friendly some of the new equipment is. Specifically today, the owner of a system can monitor the output of their photovoltaic array in real time. In fact, a lot of people really get into it and watch to see how much electricity they're making that day and interestingly enough, they become more...better conservers of energy as a result because they're much more aware of what they're making and what they're spending in their energy account, so to speak. Providing for the solar gardens or these mini-co-ops, one way to look at them, may help to correct an unfair aspect of the current system. The subsidy that helps to balance the subsidies available to fossil fuel generations is in the form of a federal tax credit. This bill may help churches and other nonprofits take advantage of the benefits of solar power. We think these are the core features of LB557: clarifying that solar gardens are a legitimate part of the Nebraska energy system; ensuring that local utilities do not obstruct their use; and ensuring that they are gardens...that the gardens are not strangled by size restrictions that are unwarranted. People want solar gardens and there's no reason for us to do anything but to let them have them. In fact, it seems to make the most sense for utilities and legislators and participants in solar gardens to work together to evaluate our experience over time and determine the best way that these gardens can bloom for all of us, the system and the owners alike. Thank you. [LB557]

SENATOR CARLSON: Okay. Thank you for your testimony. Questions of the committee? Senator Haar. [LB557]

SENATOR HAAR: Yes. John, do you...one of the big advantages you see of solar gardens over individual...you know, fine, just put them on my house. [LB557]

JOHN ATKEISON: Well, your house may not have the right orientation. It might be...it might not be...the best roof might not be facing south or west. You might not feel like you can afford right now the tracking system that brings it up and points the array at the sun as the day goes along. You may be in a community where maybe there's a

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

covenant that would make it more difficult to have a solar array on your house. It's a way for neighbors and family and friends to get together and to use the best locations for the best production, and then put up that array and share the benefits. It's really just a way of getting together, doing things together, and making it work for everybody. [LB557]

SENATOR HAAR: So would...like if it was Lincoln Electric System, they'd have nothing to do with the buy-in to the system, right, but they would with the distribution, is that correct? [LB557]

JOHN ATKEISON: You mean the cost of the installation? [LB557]

SENATOR HAAR: Yeah. [LB557]

JOHN ATKEISON: Right. LES is unique and wonderful in that they provide a small kilowatt...per kilowatt capacity payment, a very small subsidy, because I think they recognize that there is some value to the utility to have this kind of distributed generation. But, if anything, I think it would decrease the cost to the utility because it requires less future generation capacity to be built, which is very expensive. And it reduces distribution and transmission equipment costs. And there are benefits along that line aside from the environmental benefits of displacing fossil fuel generated pollution and greenhouse gases and all the other things that I would really like to do without. [LB557]

SENATOR HAAR: So, if you and I and Barb decided to do a solar garden... [LB557]

JOHN ATKEISON: Uh-huh. [LB557]

SENATOR HAAR: ...and my house wasn't a good place to have it, all three of us would invest money in it, or not necessarily. I mean, that...or is that up to the group that does the solar garden? [LB557]

JOHN ATKEISON: That's pretty much up to the individuals involved. But that's the principle. And it means that if you have two shares or a hundred shares, it can be structured so that people who aren't lucky enough to have landed in a well-paying job to participate and to share the benefits. It means that all of these benefits can be shared and it really makes it possible to have more of the solar power overall, which I think benefits everyone. [LB557]

SENATOR HAAR: And Senator McGill mentioned this, but this would not be unique to Nebraska. [LB557]

JOHN ATKEISON: Oh, no. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR HAAR: Where else? Do you know any of that, where else is it being explored? [LB557]

JOHN ATKEISON: There's a...in Colorado. There's a big movement in New Mexico. And it's spreading. There's a big discussion nationwide about this...about this. It's a movement, really, where people see, oh, it's cheaper now, so if I go in with my friends, I can have some. And so, it's just starting out and it's somewhat due to the incredibly reduced prices of the hardware. [LB557]

SENATOR HAAR: Good. Thank you. [LB557]

SENATOR CARLSON: Okay. Any other questions? Senator Smith. [LB557]

SENATOR SMITH: Thank you, Senator Carlson. So this...say a two megawatt nameplate rating for a facility, what land mass would that be? [LB557]

JOHN ATKEISON: That would be rather large, which, you know, there's land available, but as I said in my formal testimony, I think that precise number is not really at the core of the bill. And I think the utilities have a legitimate concern about, you know, how much anybody can walk up and say, here, plug this amount of power in. So maybe that could be a little refined, but we don't want it limited at a, you know, a twenty-five either. [LB557]

SENATOR SMITH: All right. But a two megawatt, roughly what size will they mess with. [LB557]

JOHN ATKEISON: Probably a couple of acres. [LB557]

SENATOR SMITH: A couple of acres. [LB557]

JOHN ATKEISON: Depending on the equipment. There's all different types of equipment as well. [LB557]

SENATOR SMITH: All right. So it may not...so when I hear the term, community, do people have that much available land to optimize a location, it may be some distance from the buildings that it would be serving, right? Could be some distance? [LB557]

JOHN ATKEISON: Or it may be exactly zero distance because one of the possibilities with this technology is, you could spread two megawatts over a neighborhood on peoples houses and you're not taking a single square inch of additional space. [LB557]

SENATOR SMITH: All right. So, if it was all located at the same place, then it could be

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

some distance away in which there would be some distribution requirements. And would you be...would you see this tapping into existing distribution facilities to deliver the power, or would it be separate distribution facilities? Let's say, if it was a consolidated location for the two megawatts. [LB557]

JOHN ATKEISON: That's a very specific question that would have to be answered very specifically. There was another bill introduced that asked public utilities to take an inventory to specify where there was free capacity in their system so that such installations could be properly sited. But sure, that has to be worked out with utilities. [LB557]

SENATOR SMITH: Okay. [LB557]

JOHN ATKEISON: I think it's structured a little differently where you have an investor-owned utility and you want to make them do something. Public power is ours. You know, we all have an interest in making it work right and efficiently and cost effectively. So that's something I think that needs to be worked out cooperatively. [LB557]

SENATOR SMITH: All right. And then if...whether it's a consolidated location or distributed location on various buildings, would that then override local zoning requirements? So would this...do you see this bill as having precedence over local zoning? [LB557]

JOHN ATKEISON: Gee, I think that's a question I'd ask you. (Laugh) I don't think I'm qualified to answer that, but... [LB557]

SENATOR SMITH: Well, you said you've seen it implemented elsewhere, so tell me from your experiences. [LB557]

JOHN ATKEISON: I don't have a good answer for you. I'll be glad to look into it and get back with you on that. [LB557]

SENATOR SMITH: Okay. All right. Thank you. [LB557]

SENATOR CARLSON: Okay. Any other questions? Well, John, thank you for being here. I'm going to ask a question that kind of takes off on what Senator Smith just said because around this semicircle and including yourself, there's ten of us. And you and Senator Haar and Barb decide that you want a solar garden and we're part of a homeowners association, we're all in the same neighborhood. But I don't know that the other seven of us really want such a thing in our neighborhood. What do you see as our position of being able to make a decision in this? [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

JOHN ATKEISON: And this raises the issue of covenants, which is sort of akin to what we were talking about a moment ago. In some states, California, I believe Louisiana, and I really think we can be more progressive than Louisiana, that there's specific legislation that says homeowner associations cannot forbid this, just to make it clear. And I would support that because I think it's...that's the right way to balance it. And it is a balance, which I think is implied in your question. But I think this is where we ought to come down on it, but that...I don't see any big controversy in putting skylights...that...the kind of controversy you get with solar panels on a roof. So, you know, I think, you know, maybe just need to back off of that and let people...let people have the solar panels. [LB557]

SENATOR CARLSON: Okay. I appreciate your answer because that's straight and honest and you're really saying that seven can't overrule three here. [LB557]

JOHN ATKEISON: That's correct. [LB557]

SENATOR CARLSON: Okay. All right. Thank you. Any other questions? Okay. Thank you for your testimony. [LB557]

JOHN ATKEISON: Thank you. [LB557]

SENATOR CARLSON: I'm going to do something rather unusual this morning because we had such a short meeting in the Chamber before we broke up for our hearings. There's a group of Wilcox-Hildreth students back there that are visiting the Capitol today. Would you please stand, all of you? And if...yeah, you stand quickly I won't make you come up and testify. (Laughter) But we're glad you're here today. Welcome. Okay. Next proponent. And the next proponent, come on up and take an on-deck chair and we can move forward. Welcome. [LB557]

KENNETH DEFFENBACHER: (Exhibits 2 and 3) My name is Kenneth Deffenbacher, K-e-n-n-e-t-h D-e-f-f-e-n-b-a-c-h-e-r. I'm a retired faculty member and scientist having served 41 years at the University of Nebraska at Omaha and having been a resident of Nebraska for nearly 45 years. Currently, I'm president-elect of a public interest nonprofit organization whose purposes include educating the public about solar energy and how it benefits homeowners, businesses, and nonprofits, as well as to raise funds for solar installations on low-income homes, and to develop a pilot solar schools program. My support for LB557 is based primarily on the fact that it provides for the possibility of community solar installations. One decided virtue of such solar electric or photovoltaic installations is that as they accumulate throughout the service area of a public utility, in Nebraska's case, it would help to create a more distributed system of electric power generation. The resulting system would have a lot more power generating nodes, such that no natural disaster or generating plant malfunction would have as large an impact as at present. And it would increase the energy mix beyond the current heavy reliance

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

on coal, natural gas, and nuclear energy. Increased long-term purchases of wind-generated electricity by NPPD and OPPD are encouraging, but any efforts to ramp up use of solar energy beyond the current miniscule amount should certainly be encouraged. This proposed legislation would have the effect of doing just that. Solar electricity generation has the particular benefit of peaking exactly when human demand for electricity is the greatest, for air conditioning, water pumping, and the like, during extended periods of hot weather. A distributed system for solar electricity generation should be just what the doctor ordered for our public utilities. They would have less need to try to buy power from the grid at high prices, prices even if not passed on to their ratepayers, that would reduce their financial resources. They would have less need to interrupt power to large businesses who must then rely on backup diesel-powered generators to generate power. Wind-generated power is already at grid parity, and with rapidly decreasing costs for solar equipment, solar-generating power should be at grid parity, averaged over a year's time, by 2016 to '17. In fact, during summer months, depending exactly where one is in Nebraska, solar-generated power is currently as little as 5 to 9 cents per kilowatt hour viewed from the customer's side of the meter, well less than what our public utilities must pay for any needed electricity on the open market during summer months. And I've included an attached report, Harnessing the Sun, by the previous speaker. Having a distributed system of community solar electric generators would also benefit Nebraska public utilities in yet another way during extended periods of drought. Fresh water shortage can force nuclear reactors to drastically reduce their power outage...or power output or even to shut down. Low river flow rates and high river temperatures produced by sustained drought conditions and high air temperatures lead to rivers reaching their maximum temperatures for cooling reactors. This phenomenon has led to 60 to 90 percent reductions in power output, or even to outright shut-down periods ranging from two weeks to the entire summer for a number of European nuclear power plants, all in the past ten years. Our beloved Missouri River is looking rather low after only one summer of severe drought, with another such summer forecast for this year unless we get a lot of moisture this spring. If global warming continues the pace, this sort of interruption of normal nuclear power generation is likely to become a Missouri River phenomenon. Coal-fired plants that draw considerable water for their operations, too, may likewise experience difficulties as similar problems with streamflow affect not only the Missouri, but also the Platte River and its tributaries. The beauty of solar-generated energy is that once the cost of the photovoltaic panels has been absorbed, a cost that continues to drop, they require little maintenance and one can be assured that the cost of sunlight will never increase. The same cannot be said for other energy sources for electricity generation such as fossil and nuclear fuels. Furthermore, neither air pollution nor solid waste needing disposal is generated by solar panels, as is the case for fossil and nuclear fuels, thereby generating yet more cost for both the utilities and their ratepayers, not to mention threats to human health. [LB557]

SENATOR CARLSON: Okay. Thank you, for your testimony. Questions of the

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

committee? Senator Dubas. [LB557]

SENATOR DUBAS: Thank you, Senator Carlson. Thank you, Mr. Deffenbacher for being here. Is solar, is that still an evolving technology or where are we at with that? [LB557]

KENNETH DEFFENBACHER: I think the previous speaker spoke to it becoming even more evolved as well as a lot cheaper. For example, he mentioned the ability of anybody that has a microcomputer and what, an airport kind of arrangement, can monitor it in real time. The...I think the technology, it continues to improve. But I think it...I mean, it's...the evolution is not done, but I think the technology is more than sufficient for people that might decide to invest in a solar garden to have...be maximally satisfied. [LB557]

SENATOR DUBAS: Is there growing interest among individuals in installing these types of...? [LB557]

KENNETH DEFFENBACHER: Yes, in fact, I was just recently talking with...I was meeting for another purpose with a member of the sustainability division of OPPD. And he reported at a stakeholders meeting they had recently, suddenly the stakeholders were talking about solar gardens and the possibility of people getting involved with this. And it's led, he said, his division to start talking about the possibility of developing a demonstration solar garden. Obviously, it wouldn't be one for investors, it would be just a demonstration, what it would be like. And to put it somewhere in Omaha where lots of people would be driving by to see it. So, he said they haven't decided what the capacity would be yet or anything, but he said it seemed to be on everybody's mind and it's got the people in his division really talking about such a possibility of a demonstration solar garden. [LB557]

SENATOR DUBAS: So this is really being consumer driven then, citizens, individuals, businesses? [LB557]

KENNETH DEFFENBACHER: I think it's from the ground up. In fact, everybody talks about Germany, which is...when I last checked, the latitude is typically about the state of Maine. Nobody ever accused Maine of having a tremendous amount of sun. And yet, they're well on target to having 80 percent renewables generating their electricity by 2050. And there was one day last May where 50 percent of their power was generated by solar. Now, they have a lot of wind, and offshore wind, and so forth too. But the solar...the interest in solar generated electricity didn't really take off in Germany until after Chernobyl and the nuclear power...the fallout coming over Germany. And it wasn't started at the top by politicians and by private utilities or anything. It was from the grass roots and finally the grass roots kept hammering away and eventually they've just done away with a lot of red tape and all. You can drive through streets where, you know,

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

every church and every house and, of course, they've cut the red tape which really helps. Everybody wants to be in on this community generated power. And so, it's sort of been a grass up phenomenon and it seems to be working well for the Germans, who the last I heard had a pretty good functioning economy. [LB557]

SENATOR DUBAS: Very good. Thank you so much. [LB557]

SENATOR CARLSON: Okay. Senator Haar. [LB557]

SENATOR HAAR: Thank you. Do you sort of keep up with what's going on on the federal level with solar and so on? [LB557]

KENNETH DEFFENBACHER: I'm not...keep up is a relative term, but I try my best. (Laughter) Yes. [LB557]

SENATOR HAAR: Okay, it is, like fair. Well, what I was wondering, there was one point where there were local covenants against satellite dishes and then a federal law was passed that those can't apply, and so you can have a solar, or you can have a satellite dish anywhere now in this country by federal law. Is there any such move around solar panels, do you know? [LB557]

KENNETH DEFFENBACHER: Not that I am aware. And I know, it is a concern. There was a well-known Omaha case where a homeowner eventually decided that he would take them down. Although solar panels now are not the old-fashioned...they essentially fit just about like a skylight. For whether it's solar hot water or solar electric, they don't stick up like they used to. Now, maybe they still don't look like what people want on a roof that live in a neighborhood. But again, that's where you wouldn't necessarily have to have them on your house in a neighborhood if you want a solar garden. If there is a couple vacant lots somewhere, then this...not too far away, that could be used too. It's, I guess, if people wanted all to put them on their houses or their apartment buildings or whatever, that would be nice. It would be real close, but it doesn't have to be. [LB557]

SENATOR HAAR: Okay. Thanks. [LB557]

SENATOR CARLSON: Senator Johnson. [LB557]

SENATOR JOHNSON: Thank you, Senator Carlson. Thank you. Several years ago, we purchased an old house and a little bit of fallacy in the marketing because they said if we put in a solar unit for heat and we insulated the house and put in new windows, every one of them guaranteed our utility would drop a third, but we still got utility bills. So it wasn't fool-proof. But the technology that was used then for heat, is any of that adaptable for also producing electricity? Is there a totally different...? [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

KENNETH DEFFENBACHER: Well, solar hot water is not something that hooks up to the grid because it just heats the water. And then, I'm familiar with such a house in Omaha. It's an old house that's two stories and fortunately they had, all the way from the basement, they opened it up so it would go up to the second story, and this winter they're doing just fine. They have solar hot water and a big storage tank in the basement and it heats the floor that goes underneath some tubes on the floor and they put another layer of cement on top of that. And that's...the radiant heat from that just rising up through the house is heating their whole house, so they've sort of taken care of their electricity bills for heat, not to mention hot water. So, the technology seems to be quite sufficient to do that. Certainly, energy...the energy conservation is the, you know, the first thing to do. We don't believe in solarizing a tent, for example, (laughter) that you should have a tight house first. In our own case, we're not suitable for solar but we found by just tightening up at the house, we reduced our utility bills by a third. If we were suitable for solar, we'd probably...and if there were a solar garden, we'd probably invest in that too. [LB557]

SENATOR JOHNSON: So the panels would be the same. It would just be the way it's hooked up to the grid or whether...? [LB557]

KENNETH DEFFENBACHER: Well, all I know is the...around the world, the technology now seems to be that...I mean, it depends on the size of your array. If you just have, you know...obviously, if you could have a five kilowatt array on your roof, that would reduce your bill. [LB557]

SENATOR JOHNSON: Yeah, you'd have to have the capacity. [LB557]

KENNETH DEFFENBACHER: Yeah, you'd have to have the capacity. [LB557]

SENATOR JOHNSON: Okay. Thank you. [LB557]

SENATOR CARLSON: Okay. Thank you. Senator Brasch. [LB557]

SENATOR BRASCH: Thank you, Mr. Chairman; and thank you, Mr. Deffenbacher, for your testimony. It's very interesting. I do have some questions where looking at the statutes, it says that a community solar garden means a solar electric generation facility with a nameplate and it elaborates. So there's a facility for the solar garden somewhere, is that correct? [LB557]

KENNETH DEFFENBACHER: Well, I assume facility is just a generic term for a collection of solar electric equipment. I guess, I hadn't really thought about that, the meaning of the term, but it's not...and, obviously, it would have to be able to be interfaced with the grid. But I'm not sure. I don't think it implies anything more than just an array, a photoelectric array. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR BRASCH: Okay. And then my other question is, looking at the fiscal note here, it does have a fiscal note, \$8,000 for a consultant for up to a year to, I believe to initiate or implement. [LB557]

KENNETH DEFFENBACHER: Well, now, I assume...I saw that note and I assumed that was what it would cost the taxpayers for the Legislature to have a... [LB557]

SENATOR BRASCH: Okay. Expenditures of \$8,000 and...so I did see...okay. [LB557]

KENNETH DEFFENBACHER: So this would be an expense that the state of Nebraska in overseeing this, or I wasn't real clear on what that expense was. [LB557]

SENATOR BRASCH: Well, I believe it's part of the Power Review Board. It gives them...and it goes on into the statutes that the Power Review Board or local distribution utility may adopt and promulgate rules and regulations as necessary on the implement of this section, and it goes on that, so rules can change ongoing as needed, is what...and there's a cost to that. And so what if...my question is based on it's up and running, there's a facility, there's a community, what if one of the...or several of the people in the community decide that they need...the company moves, they need to relocate. So would that cost be distributed at a higher cost to members of that garden community, the solar garden? And maybe you're not the right person to answer those, but how, you know...? [LB557]

KENNETH DEFFENBACHER: Yeah, I wouldn't think so. I'm not a lawyer or an accountant, but I would think if there were...if the solar gardens were legal to form, and I would assume like any organization of which you are a stockholder, in effect, that if you move or die, or I assume there would be rules for...as like any corporation in the state of Nebraska, nonprofit or profit, there are rules for about how you dissolve. I assume all that would be covered in other sorts of legislation. And I would assume somebody could sell their share. Obviously, if somebody dies, then other kinds of laws exist for dealing with economic interests. [LB557]

SENATOR BRASCH: So, in other words, there would be an...oh, I guess, an array of various rules, regulations, procedures for the facilities themselves. And... [LB557]

KENNETH DEFFENBACHER: Yeah, this is...Colorado passed this kind of legislation in 2010 and solar gardens are a booming business. Whether they are operated by the people themselves, or in some cases, there are third parties, (inaudible) private, for-profit companies that come and offer to set the thing up. And, obviously, they're making a little something off the top, but they can be kind of flexible in terms of how people can profit from such an arrangement. But solar gardens are a booming business in California and New Mexico and Colorado, that I know of. And there's been quite a bit

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

of interest in other states around the country too. [LB557]

SENATOR BRASCH: Very good. I have no other questions as Vice Chair. The Chair left for...I will conduct until Chairman Carlson returns. Do any of the other members have questions of Mr. Deffenbacher? Senator Smith. [LB557]

SENATOR SMITH: Thank you, Senator Brasch. And, Mr. Deffenbacher, thank you for being here and for your testimony. And I'm going to ask you kind of a technical question about the bill. If you don't know, that's okay. Maybe someone else that follows you can explain it to me. But there's a section of the bill here that talks about...it says, a subscription organization shall be responsible for providing to the local distribution utility on a monthly basis and within reasonable periods the percentage shares that should be used to determine the net metering credit to each subscriber. Now...and then if there's any leftover energy, basically, that's where the...there's a subsidy by the utility back to the subscription organization. But what are we talking about here? Are we talking about that the subscribers are the individual users of the solar energy? So if they're getting the benefit of that solar energy, then are they also getting a credit from the electric utility for using solar energy and not taking energy off the grid? Is that what's going on here? [LB557]

KENNETH DEFFENBACHER: Right. As long as that solar garden were not generating enough power to--as often would be the case throughout the year--to totally cover the customer's bill, they would be just getting a credit at...and I know that's the way OPPD is doing it now for those people that are in this...just have, they're not a part of a garden, but they have their own solar installation, they're getting the current retail rate which is what they pay. So it's just a direct deduction on their bill. Now, on the rare occasion when they would...I think the law provides this, that they might generate more than they would actually use at some point during the year, the utility would only have to pay their avoided costs, which would be a lot lower. But in that case, the people in the solar garden or any retail customer would be getting, well, like a further credit or direct payment or whatever. But most of the time it's just a deduction on their bill and at the same retail rate that applies at that moment. [LB557]

SENATOR SMITH: All right. And again, if someone else that follows you, if I'm misreading this, please, someone else explain it to me. But once again, if you're a subscriber and you're investing in this, in this subscription organization, you're getting the benefit of that solar power, but you're also getting credits from the electric utility equivalent to the energy that you're avoiding taking off the grid. And then your subscription organization is also receiving a subsidy for generating more than is being consumed by the subscribers, it would appear to me that the effort is being subsidized by nonusers of the solar. So if I don't have the wherewithal to invest in this and I'm a poor customer somewhere, on my bill I'm probably going to be picking up some of the charges for the redundancy that's needed to back up the solar. Also, there may be

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

businesses and other people that just choose not to participate in this that will be subsidizing. So, it's a...I mean, it seems as if other...you know, it's not going to be free. Someone else on the grid is going to be paying for that. [LB557]

KENNETH DEFFENBACHER: No, I think the retail rate is whatever it is, and as long as this solar garden is not generated, which would be much of the time, will not be generating enough to cover the individual investors' bills, then all the...this particular group is getting is at whatever their current retail rate is, which they would pay if they weren't part of a solar garden. That...they just get a credit at the same retail rate which does reduce their own individual utility bill in proportion to how much they've invested in the solar garden. And then the only time...actually it's a good deal for the utility. If, for example, it was hot and sunny which wouldn't happen but six months a year, and there was some periods where this solar garden was generating more than the individual customers...or more than they were using, then it's actually a good deal for the utility because unless they...let's say, instead of paying 10 cents, the resale rate, they might only had...their avoided costs might only be 2 or 3 cents, they only have to pay for the extra power that's being generated that's going into the grid at that rate. And so, they're not having to pay for that extra power that's beyond what customers need at anyways near the retail rate. So it's a good deal for them in that case. [LB557]

SENATOR SMITH: All right. Well, my point is...and I hope that maybe utility companies that may be in the audience, if they can clarify this for me, but last I knew of, we cannot guarantee cloud cover and we cannot guarantee wind. And so there has to be some type of a redundant generation method there. [LB557]

KENNETH DEFFENBACHER: Absolutely. [LB557]

SENATOR SMITH: And if that's the case, we are...some of these utilities have to enter into long-term purchase contracts for their fuels and so there is a cost there whether they are supplying the energy off the grid or not. So, if you're not taking energy off the grid, and you're receiving a credit for that, someone else is going to have to be picking up those costs. So I guess I'm not leaving that with a question for you. I'm just wanting to have some of those answers if someone else in the audience can explain how that works from the utility standpoint. All right. Thank you. [LB557]

KENNETH DEFFENBACHER: Well, the customers, as long as they aren't generating excess power from the solar garden, they're still taking off the grid and will still be paying the retail rate, except it will be less because some of that would be covered by the power...I'm not sure why that's a subsidy. That's not a subsidy. [LB557]

SENATOR SMITH: And I appreciate your answer there, but maybe we could have others answer that as well. Thank you. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR BRASCH: Thank you, Senator Smith. Are there other questions from the committee? Seeing there are none, thank you, Mr. Deffenbacher. Are there any other proponents of LB557? Please come forward. [LB557]

LEO ARENS: Good morning, Senators. My name is Leo Arens, L-e-o A-r-e-n-s. I'm from Millard, Nebraska. My experience with electricity in Nebraska, as a farm boy in Cedar County in 1944, we had a wind generator. We had batteries in the basement. And at 9 o'clock at night or 9:30, my dad would say, you know, it's probably time to go to bed because the light that we had in the house that was using that electricity was going out. Well, time passed and Senator George Norris and so forth introduced the REA to the United States and my father and the neighbors put up the poles and the wires so that we could have electricity. We had no meters. We just paid so much a month for our electricity in the good old days. Then meters come and so forth. Later on, I moved into a new house and I had underground wiring and so forth and it was perfect, but occasionally in the wintertime, like early this winter, there was a windstorm and the wires went down. And I thought to myself, you know, I don't appreciate electricity that much until it's gone, and I go out and I see this electrician hanging on the wires and there's ice and snow and so forth and he's reconnecting me. And I thought, well, this is the Nebraska way of doing things. The solar bill that we're looking at now is part of this whole game plan. And I look at it from the standpoint, I was involved in solar in 1979, with the Renewable Energy Trade Association, helped with some of the legislation that Governor Thone passed so we had a solar tax credit. At that point in time we needed subsidies in order to make things happen. The tax credit bills were...had a sunshine clause in them that when the federal tax credits left, the state tax credits would leave. And so they went out of existence and at that point in time, solar could not stand on its own two feet economically. I have an accounting background so I understand some of the numbers and will address some of the questions that Senator Smith had about some of the economics and so forth. But I'm looking at this solar garden bill as a, you might say, a prototype for Nebraska. At some point in time, I mean, our wonderful investor Warren Buffett has done the deal in California where he's making money on solar farms. We're looking at solar gardens. Solar farms are the two gigawatt, megawatt type of installation. I'm looking at the neighborhood type of thing when us folks can get together and five of us decide that we want it and ten of the neighborhood say, no, we don't want it, the covenants that we have won't allow it. Well, if you look around Nebraska, you look around any substation, any power substation in Nebraska within a two-mile radius, there is enough land to put this on, or even, in fact, in some of OPPD's substations, they have extra land right at the substation where one of these gardens could go in. So the transmission is set up so that it's married right into the substation. There is no line loss. I mean, compared to when you're buying power from the outside and bringing it in in the summertime, when you may have from 3 to 13 percent line loss in the summertime because of the resistance in the wire, I'm talking about putting it right where you need it. So, we may have like 2 percent line loss. I don't know the exact numbers because I'm not an electrical engineer, but I know from a realistic standpoint

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

that this can be made to happen. And the other aspect with the accounting on the credits and so forth, there's a lot of mechanics in there that I, as an accountant, look at and say, why not...why don't we give the option of saying, okay, I got \$19.40 credit coming at the end of the year. Why cut a check? Why do this here? Why not put it into the power company's green fund or into their electric aid fund for those people that cannot pay their electric bill? And so I'm...you know, that way we would do away with all the mechanics of the accounting in there at the office, and in like OPPD's case, they have the technology already on multimeters for apartments and so forth, so a lot of this stuff that's involved in this bill is already in existence in their operation. Thank you. [LB557]

SENATOR BRASCH: Thank you, Mr. Arens. Are there any questions from the committee? Senator Haar. [LB557]

SENATOR HAAR: Yes. So, just a little history because I'm not familiar with all of this. In '79 there was actually a credit for solar and when did that expire? [LB557]

LEO ARENS: We started a renewable energy trade association and former Senator DeCamp and Senator Don Wesely were champions on this legislation, and it was brought before Governor Thone and he signed the bill. And we had tax credits until about '87, '88. I'm not exactly sure on the year, but the bill was set up that it would have...it would tie it to the federal legislation. So whenever the federal legislation left, the state legislation. And this, for the income tax purposes, it made it very simple. [LB557]

SENATOR BRASCH: Thank you. Are there any other questions from the committee? Seeing there are none, thank you again, Mr. Arens, for coming forward. [LB557]

LEO ARENS: Thank you. [LB557]

SENATOR BRASCH: Are there any other proponents? [LB557]

KEN WINSTON: (Exhibit 4) Good morning. It feels disorienting to be testifying in the morning, so. (Laughter) I'm not a morning person, so good morning. My name is Ken Winston. I'm appearing on behalf of the Nebraska Sierra Club in support of LB557. We support efforts to develop more solar electric generation for many reasons, including the fact there are no harmful emissions from burning fossil fuels, and no cost to purchase fuel since the fuel comes from the heavens. It also doesn't use water. The cost of solar has declined precipitously in the last two years, making it much more competitive with other energy choices. LB557 provides an option which can overcome some of the obstacles to solar development, including opportunities for apartment and condominium residents to participate, and some people have the lack of good exposure to sun. And then, I've attached on the flip side of my testimony a copy of a poll that was recently

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

done by NPPD. This is not something that we did. I understand it was passed out at a NPPD meeting recently, but...and so, one of the things that I found interesting is the fact that the...more than half of the respondents would favor rate increases to boost wind generation, 61 percent; 51 percent supported...would support a 5 percent rate increase for solar, and then there were also wind and solar if there were even further rate increases, people supported those. And frankly, based upon the information that was presented at the hearing last Friday by Mr. Binz, we believe that adding solar and wind do not actually lead to increases in rates. And so...but we look at this as being one more tool to develop more renewable energy and also just because of the fact that there's some questions about the interest of ratepayers in this issue, we thought we'd provide one poll which is consistent with polls that have been done over the years. Actually, some of the polls have shown 80 and 90 percent support for wind development. Thank you. [LB557]

SENATOR BRASCH: (Exhibits 5-8) Thank you, Mr. Winston. Are there any questions from the committee? Seeing there are none, are there any other proponents this morning? I would like to have four letters of support for LB557 to be written into the record: Melissa Bees of Bellevue; Bruce Kennedy, Wachiska Audubon Society; Helen Deffenbacher, Omaha; and Rita Corell, Omaha. Is there another proponent here? Thank you. [LB557]

RANDY SCHANTELL: (Exhibit 9) Good morning, Senators. My name is Randy Schantell. I own a solar company, basically an energy consulting and sales company here in Lincoln. I've been at it since 2006. Like Leo, I was in this business back in the '70s also where we did mostly thermal solar and we're just looking for some help here. (Laugh) I mean, it's time to get going because right now coal is on the way out. I mean, it's too dirty. We're getting to the reserves now that are sub-tumorous, which means they're even dirtier to produce electricity from. So the cost of trying to stay with that resource is just going to be astronomical where the resource we're talking about, we're not even requiring the utilities to invest in. We've got individuals on the street, homeowners, churches, you name it, that just want to try to do something to stabilize their rates for a long term and not be part of the escalating costs that are going to be unavoidable. It's obvious to me that the utilities have been standing in the way of this development, and there's a complete lack of vision by our Power of Review Board. I've e-mailed this testimony to all of you prior to this meeting and, you know, different issues. Like renewables, solar really isn't even mentioned in the last long-term energy plan that the Power of Review Board put out. And wind was mentioned, but it gave it no value because it didn't offer anything during peak-power demand. So, just by that equation, they declare it worthless. And as far as the state of Nebraska, I think the state of Nebraska has...I think is the only state that doesn't have a renewable energy portfolio. NPPD maintains one, but why is the utility maintaining something that the state should be authorizing? It doesn't make sense. Neighboring states are light years ahead of us in renewable energy development, including solar. And the technology that we have that's

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

coming on, I mean, it's just overwhelming. We're going to have the ability to take communities, businesses, homes, completely off the grid. So I don't know why our grid would want to compete with that kind of possibility. They'd be better off cooperating and making something like this program work. We have technology such as fuel cells, hydrogen, flywheels and elevated water and so forth for storage systems. Even compressed air is being looked at. Electrolysis is used with solar. Year-access solar can be used to produce hydrogen, store it on site, and reuse through a fuel cell to run your business. You don't have to have a grid. The other thing, the things that we are offering are more efficient by far than even wind and it's mainly because of this thing called local distributed generation. If we produce our power on site, we're going to be 90 percent, or more, more efficient where the grid can't even compete with that kind of efficiency rating. The things that makes solar really nice, and LES has noted this, peak-power demand. That's where we get our capacity payment from is...LES notes that when solar is working the best, is that's when they need electricity the most. And the wind doesn't provide that. They take a nap during the summer months. Solar, when the air conditioners are pounding away, solar is a constant source of energy during those times. You know, one of the proponents...or advocate...well, one of our proponents would be the Farmers Union which was actually looking around and talking to rural electrics that they should not be closing the door to producing their own energy on site. I mean, things the rural electrics should be looking at, and even small communities, looking at developing their own sources locally because they're going to be more efficient and more reliable. [LB557]

SENATOR BRASCH: Very good. Thank you, Mr. Schantell. Are there any questions from the committee? Senator Haar. [LB557]

SENATOR HAAR: Yes. Are you just speaking from a theoretical standpoint or have you actually...and I know the answer to this, but have you actually been working with solar? And what are the kinds of projects you've done? [LB557]

RANDY SCHANTELL: We're working with a company out of South Dakota and they've actually been coming down here and they've been working with the Farmers Union on some possible projects. The projects we've got in South Dakota is where we've taken complete communities and actually selling them on the point of energy security. They're microgrid communities where each house would have a minimal amount of solar on it, plus there would be a central area, common area that would not only produce all the well water for thermal, geothermal heating and cooling, but they'd also be the backup source if the grid would go down. These are still intended to be connected to the grid. But as far as the solar and everything and energy, they're basically net zero. They'll produce enough energy on site that they could offset whatever they have to buy when they need it later at different parts of the year. [LB557]

SENATOR HAAR: Talk a little about balancing. How does...how would LES, for

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

example, if...it's pretty easy if you have two or three solar panels, but what if you have, you know, 5 percent penetration or something like that? How would...can science...you know, do we have the technology to solve that now without for every solar panel putting in, let's say, a natural gas generator or something like that? [LB557]

RANDY SCHANTELL: I'd say most of that's...you know, the solar is going to be augmenting the, you know, the grid when LES needs that power the most. And I don't think it's going to be that intrusive. You know, if it gets to a point where it's more than they can handle, I mean, we've got storage systems that can be brought on to adapt to those situations. Is that the...I mean, the main thing is that if we brought on more of this during peak, that's less power that we'd have to buy from either outside or another generator to produce on site. So, it's something that the utility won't have to spend money for to get that excess power. [LB557]

SENATOR HAAR: The South Dakota projects you're working on, does that involve any smart grid technology or is that yet to come? [LB557]

RANDY SCHANTELL: Not at this time. Most of what we do is just the utilities change out to a bi-directional meter so they have an idea of what's going in, what's going out. [LB557]

SENATOR HAAR: Okay. Thank you. [LB557]

SENATOR BRASCH: Are there any other questions from the committee? Seeing there are none, thank you again, Mr. Schantell. [LB557]

RANDY SCHANTELL: Thank you. [LB557]

SENATOR BRASCH: Any other proponents? Seeing there are none, are there any opponents? If so, please step forward. If you plan on testifying, you might want to start taking some of the seats closer up, please. [LB557]

KRISTEN GOTTSCHALK: (Exhibits 10, 11) Senator Brasch, members of the Natural Resources Committee, my name is Kristen Gottschalk, K-r-i-s-t-e-n G-o-t-t-s-c-h-a-l-k, and I'm the government relations director and registered lobbyist for the Nebraska Rural Electric Association. I'm here today testifying on behalf of the Nebraska Power Association in opposition to LB557. The NPA is a voluntary organization representing all segments of Nebraska's power industry, municipalities, public power districts, public power and irrigation districts, and rural electric cooperatives, all engaged in generation, transmission, or the distribution of electricity within our state. We're the only state in the U.S. where every home and business is served by this cost-base, and that's important, consumer-controlled, also important, utility. While we certainly understand the interest in creating solar gardens and allowing those energy consumers that would like to invest in

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

renewable energy the opportunity to be able to do so, the proposed legislation is not the best way to accomplish that goal and does, actually, in fact, interfere and contradict with the intent of the existing net metering program. While it was not necessary to pass legislation to enable net metering, we did work very closely with Senator Haar to ensure that there was some form of baseline for net metering in the state for those consumers that wanted to own and operate their own generation to offset their use. Now, my testimony is not intended to be in opposition to the concept of solar gardens. It's not in opposition to solar energy. There are certainly very beneficial uses for the technology. But it is in strong opposition to LB557 which attempts to integrate the solar garden concept into the existing net metering law. Now, the purpose of net metering is to allow a customer to offset their own energy demands with customer-owned renewable generation and hopefully bringing their bill down to zero. And in doing so, the utilities provide some form of subsidy. And the law is very specific about the types of generation that can be involved. And I don't intend to read the rest of my testimony, maybe just highlight some issues since my issues are more with the integration into net metering versus the technology in and of itself. LB557 includes solar gardens in the definition of customer-generator. The difference being here where customer-generators offsetting for their own, a solar garden may be owned and operated by a subscriber organization which could be a for-profit or a not-for-profit entity and it would be at a different location. Both things directly in contraction to what the intent of the net metering law was. And installation of...I should identify. You know, I realize the number is not the issue, but the installation of two megawatts on a small distribution utility could have a variety of technical problems which could have a negative impact on energy quality and reliability. Senator Smith brought up some questions about, you know, the subsidy and how you credit people. And, essentially, LB557 creates a virtual net metering system and not real true net metering. In fact, if I'm reading it correctly and interpreting it right, the individual customer, the subscribers are not interconnected to the solar array. They simply are purchasing shares of that array, and then the utility, based on information provided by the solar garden, has to make the credit on their utility bill based on the generation of that solar garden. And there's a lot of questions associated with how that exactly is going to work. And while that solar garden isn't defined as a power supplier as part of LB557, it certainly is operating as such. In fact, it gets very much into retail willing. The bill also gets into requiring some form of geographic areas similar to service territories. There again, we have some concerns with how are those applied and what does that mean. The solar garden, if they can't... if they build two megawatts and they only subscribe one megawatt, in addition to the one megawatt that we offset on consumer bills, we do buy then...would be required to buy that excess energy. So that would be again, a subsidy as well. One of the other things I thought was interesting to bring up is, under the current net metering law, the renewable energy credits are to be retained by the customer-generator. This was something that was very important to the original supporters of the net metering law. And under this law, the energy credits are required to be purchased by the utility with no explanation as to what level and who determines the cost of those. The other issue is that it provides authority to both the local

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

distribution utility and the Power Review Board. And it's unclear what happens if they both undertake the...undertake the authority who is responsible for what. I see my red light is on. There...I would be happy to answer questions related to this on the distribution systems and other, so. [LB557]

SENATOR BRASCH: Thank you. And questions from the committee? Senator Smith. [LB557]

SENATOR SMITH: Okay. Thank you, Senator Brasch. Ms. Gottschalk, thank you for coming in and testifying. So going back to the subsidy and some of the points I was trying to make earlier to questions I was asking, am I reading this correctly that the utility would have to pay the consumer credits for what they consume, that they avoid taking off the grid, and then in addition to that, if they generate more than they have subscribers for, the utility has to pay for that as well. Am I seeing that correctly in this bill? [LB557]

KRISTEN GOTTSCHALK: Well, you are and you aren't. The way I see it and, of course, I have more questions than I have answers with the way the bill is drafted, but since they're not interconnected, they're still buying their energy from the electric utility so we still are serving them 100 percent of their energy needs. [LB557]

SENATOR SMITH: But they're getting a credit back on their bill. [LB557]

KRISTEN GOTTSCHALK: But they are getting a credit based on the value of their shares with the subscriber organization. And, essentially, depending on how much energy is generated, it could be a full, retail-value credit for energy generated. [LB557]

SENATOR SMITH: So do you see that as a subsidy? [LB557]

KRISTEN GOTTSCHALK: I do see that as a subsidy, yes. [LB557]

SENATOR SMITH: Who would be paying for that subsidy? [LB557]

KRISTEN GOTTSCHALK: The other consumers on the distribution system would be responsible for making up the differences. [LB557]

SENATOR SMITH: Some of those that may not be fortunate enough to be able to afford this type of generation and those that just choose not to consume it, use this type of generation. [LB557]

KRISTEN GOTTSCHALK: Correct, yeah. [LB557]

SENATOR SMITH: So, there's a subsidy. And then there's some discussion about

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

offset. So, you know, when the sun is shining and they're producing generation, and they're feeding it to the utility, then they say that more than offsets, or that would offset the periods of time in which they would be taking from the utility because there would be cloud cover. Can you expand on that a little bit for me? Is that just an easy offset to where there's just a wash in cost for the utility and for the other ratepayers? [LB557]

KRISTEN GOTTSCHALK: In a situation where, let's say, the solar garden is interconnected to the utility. If they are generating electricity into the distribution system that does reduce the amount of energy, we would have to purchase, as a distribution system, from a wholesale energy supplier. So it does offset the amount of energy that we would need to purchase. Now, because we're turning around and providing a credit on the bill, depending on whether or not they've completely offsetted or partially offsetted the bill, we subsidize based upon that. So we haven't saved any money in that process because we're still purchasing energy, in a sense, in the form of a credit on the bill. [LB557]

SENATOR SMITH: All right. And then is there a cost for standby energy, so during those periods of time when there's, you know, the sun is shining and the utility is not having to provide power to the subscribers, is there still a cost to the utility going on during those periods of time? [LB557]

KRISTEN GOTTSCHALK: The...based on our agreements with the wholesale energy supplier, yes, there still are costs because we do pay to be sure that there is always energy available for us. [LB557]

SENATOR SMITH: All right. Thank you. Appreciate it. [LB557]

KRISTEN GOTTSCHALK: You're welcome. [LB557]

SENATOR BRASCH: Senator Haar. [LB557]

SENATOR HAAR: We still have traps in ditches, right? [LB557]

KRISTEN GOTTSCHALK: We do still have traps in ditches. (Laughter) [LB557]

SENATOR HAAR: That's a personal joke from four years ago. Okay. So most of what you said was opposition. But then you said, you're not in opposition to solar gardens. What could solar gardens look like that you wouldn't be in opposition to? [LB557]

KRISTEN GOTTSCHALK: Well, the opposition is to including them as part of net metering because it really is not a glove fit for net metering. I believe a representative from LES is going to testify and they've looked at component ways of developing solar gardens. We heard a little bit about solar gardens in Colorado, although I wouldn't say

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

it's a booming business. It does seem that it's utility-based, providing subscriptions to consumers that want the benefit of saying they receive renewable generation. So I wouldn't have an absolute answer for you. I think what we look at more with this is a retail-willing situation, renewable generation, interconnected and purchased by the distribution utility, but avoiding some of the secondary offsets, and degrading the intent of net metering. If we have more of these solar gardens in place, the individual's availability to be able to net meter, then, is reduced, depending on the capacity of the distribution system as well. [LB557]

SENATOR HAAR: So, you see some potential for solar gardens. You just don't like LB557. [LB557]

KRISTEN GOTTSCHALK: I do not like...we do not like LB557, and I do see that there is room for discussion on what could happen with solar gardens in the state. [LB557]

SENATOR HAAR: Virtual net metering, so your problem is with...you see this as net metering, or you don't? [LB557]

KRISTEN GOTTSCHALK: No, I actually don't see this as net metering. It's a square peg being fit into a round hole, trying to take advantage of an existing program for consumer-based generation. But this is a next step. This is a broader interpretation. Originally, net metering wasn't meant to aggregate the resource. It was intended to allow a consumer to offset their own energy use and receive a small subsidy from the distribution utility for that. This is allowing an aggregate a...creating an energy supplier and creating an opportunity for people to purchase, you know, renewable energy, even though they may not receive any of those electrons of energy. [LB557]

SENATOR HAAR: Uh-huh. So, do you...you know, we've heard before that part of these can be...I mean, this could be a for-profit, not just a nonprofit. [LB557]

KRISTEN GOTTSCHALK: Yes, the way I read the bill, it could be for a profit. [LB557]

SENATOR HAAR: Do you see that as threatening public power or what's the problem with a for-profit group like this? [LB557]

KRISTEN GOTTSCHALK: I think when a for-profit entity is allowed to use a subsidy from a public power entity, you create a conflict with the intent of our public power systems in general. And again, a conflict with net metering. [LB557]

SENATOR HAAR: So, but what happens, let's say, in a utility where people really want to invest in solar and it would be really nice if the utility itself were doing solar and then they could buy a piece in that, but the utility doesn't want to get into solar. What...how do you balance that? Would you have a, like a right of first refusal, the way we're now

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

talking about transmission where if the utility had it, fine, but if they don't, then you'd allow people to do a solar garden. [LB557]

KRISTEN GOTTSCHALK: Well, Senator, I guess I haven't thought deeply into that alternative concept. Again, I might just kind of defer to LES since they've begun some of those discussions. It's difficult for me to say that we would want a first right of refusal. My perspective comes from distribution systems that don't own generations. So the concept of my distribution systems building solar gardens is...it's not yet on their forefront. They would look more to their wholesale energy suppliers where they have all requirements contracts. [LB557]

SENATOR HAAR: So if you have a...and this is really something I'm trying to figure out. If...so if...well, I'm part of Norris. Okay. Norris Public Power, very good, dependable and so on and so on. But they don't have the opportunity for me to buy into solar. Now, my neighbor actually put up solar because his father died and left him a bunch of money. But I'd like to invest in solar, but there's no program like that available and yet I can't work with my neighbor to set up a solar garden. So, does that mean my only option, then, is to reelect the whole board so they start doing a solar? What does the consumer... [LB557]

KRISTEN GOTTSCHALK: No, and actually...actually there are opportunities for aggregated solar energy use per by the federal law that requires that electric utilities interconnect and purchase energy from renewable energy systems, qualified renewable energy systems up to 80 megawatts, still comes in to apply. Those wouldn't necessary be net metered. In fact, they most likely wouldn't be. But the opportunity is there for multiple individuals to go together to create a renewable energy resource and then sell that energy back to the electric utilities. Federal law already allows for that and state law doesn't prohibit that in any way. [LB557]

SENATOR HAAR: So, I could go together with my neighbor and do this, and what difference would that be, then, in a solar garden that we're talking about? [LB557]

KRISTEN GOTTSCHALK: Well, the difference would be that you would be selling your entire energy output to the electric utility on a cost basis, whatever the contract you would negotiate with the utility. It wouldn't have that secondary step where you offset your individual electric bill based on the generation output of that generation resource. [LB557]

SENATOR HAAR: Okay. So, right now, my neighbor is doing net metering and I am very jealous. (Laugh) So if I wanted to go together with him and I would help pay for that solar array, then if he would sell that total output to Norris Public Power, we have a right to do that right now. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

KRISTEN GOTTSCHALK: As long as he's not interconnected with the meter running forward and backward. It would be just a simultaneous buy-sell of energy, yes. [LB557]

SENATOR HAAR: So, he'd have to have one meter running into his house and the other meter running out. [LB557]

KRISTEN GOTTSCHALK: Running to the utility. [LB557]

SENATOR HAAR: So is...so in that case, really the difference is not that, gee, some days the sun may not be...or it may be cloudy. And by the way in Germany, even when it's cloudy, they generate a lot of electricity, but that wouldn't change that at all. So if Bill and I...if I bought into his system and we're pumping electricity, you wouldn't consider that a subsidy of the whole...? [LB557]

KRISTEN GOTTSCHALK: No, because the contract for the energy output would be negotiated between you as the owners of the solar panels and the utility. [LB557]

SENATOR HAAR: Okay, but it really wouldn't change the amount...one of the things we're hearing about, it's like, okay, now you get solar gardens and they're putting energy into the system, it's going to throw everything out of balance. But I could do that if I worked with my neighbor, we could still throw that same amount of electricity into the system. [LB557]

KRISTEN GOTTSCHALK: You could, you're still going to have to deal with the technical issues as to whether or not at that particular location the grid system can handle it. You'd have to make the upgrades as necessary so that it could handle it. It doesn't just mean you can stick it in and plug it in. All of the technical issues still exist. [LB557]

SENATOR HAAR: And you don't see that the solar garden concept has to deal with those technical issues? [LB557]

KRISTEN GOTTSCHALK: The solar garden concept absolutely has to deal with those issues as well. That's...that wasn't the question. [LB557]

SENATOR HAAR: Okay. So does...really I'm trying to understand this. So under LB557, the solar garden, whatever, whoever is sponsoring this, and it was three of us before and John has left so it's just now the two of us, we have the solar garden. And under LB557 we'd still have to negotiate with public power the technical aspect. [LB557]

KRISTEN GOTTSCHALK: The technical aspects, making sure that all the safety, reliability, power quality issues are addressed. [LB557]

SENATOR HAAR: Yeah. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

KRISTEN GOTTSCHALK: The same as any metering customer then. [LB557]

SENATOR HAAR: So, no matter what...no matter how we use wind or solar or anything, I mean, those kind of technical things have to be addressed. [LB557]

KRISTEN GOTTSCHALK: Yes. [LB557]

SENATOR HAAR: Okay. So, let's just go back to the whole idea of putting solar into a system. Now, since usually the sun does shine during most days, and especially in the summer if the solar panels are properly located and so on, I mean, they could help a utility with peaking. Not just one or two solar panels, but a large number. [LB557]

KRISTEN GOTTSCHALK: It would have to be significant numbers of solar panels, yes. [LB557]

SENATOR HAAR: Yeah, to really make a difference. So, would it also have to have a large number of solar panels to throw the system off balance. This whole thing we've been talking about of balancing. It would also take quite a large number of solar panels or solar gardens or whatever to throw a system off balance. [LB557]

KRISTEN GOTTSCHALK: For the technical energy flow issues... [LB557]

SENATOR HAAR: Yeah, for the technical energy. [LB557]

KRISTEN GOTTSCHALK: ...it would depend on ebb and flow of energy. It would depend on where on the system it is. But yes, that...it wouldn't be different. [LB557]

SENATOR HAAR: Okay. So, really the only thing we're talking about here is elements of LB557 that have to do with billing. [LB557]

KRISTEN GOTTSCHALK: Billing, who establishes the rules and regulations and how those are applied, and the offset subsidies that the utility would be required to do with a customer that's not directly connected to that distributed generation. So there's a number of issues and I didn't touch on all of the ones that didn't... [LB557]

SENATOR HAAR: Okay. Well, I would like to, if you'd, you know, get that for me. But talk again about the offset subsidy. What do you mean by the offset subsidy? [LB557]

KRISTEN GOTTSCHALK: Well, that's where in the virtual net metering, under true net metering, we know that you have your wind turbine, or you have your solar panel, and you're interconnected to the grid, and you have an interface between the grid that if you're just using energy, you know, the sun is shining, you just have a few things

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

running in the house and you're using all the energy you generate. Obviously, during the nighttime that's not going to be the case, so during the day the energy from the grid flows in, and we're doing this system where we're kind of pushing energy back and forth... [LB557]

SENATOR HAAR: Right. [LB557]

KRISTEN GOTTSCHALK: ...through the grid. At a point when you have excess generation, then we pay you the avoided costs, the costs we would have avoided paying had we not had to purchase that energy somewhere else. The subsidy comes in that exchange system, and that will apply here even though it's in a virtual sense. You are allowing them to offset at a retail rate, essentially, up to the ... [LB557]

SENATOR HAAR: So, it's a one for one, kind of thing. [LB557]

KRISTEN GOTTSCHALK: Its a one for one, up to the point that they hit zero. Now, keep in mind the cost of energy is twofold. The cost of energy is not only the electric, you know, the energy itself, but it's the cost to maintain the distribution system. And we've already accepted this, net metering does provide a subsidy that when we're doing that one to one exchange, those consumers aren't paying their share of the distribution system during that time. And, in fact, they're getting a benefit for free and a monetary credit on top of that. That same type of credit will apply with virtual net metering, but with the larger systems, it's a greater rate of subsidy. Where we have established a 25 kW limit on the...or not a limit, but a threshold for renewable generation, we bump this to two megawatts. Then you increase that subsidy as those, more customers are offset based on the solar energy use. [LB557]

SENATOR HAAR: But, wouldn't you also consider it a subsidy of the...okay, I have a solar panel, or my Bill has solar panels, okay. Doesn't...in the hottest summer when those solar panels are producing electricity during peak hours, he is actually producing some energy that you might have to buy somewhere...from somewhere outside the area at a higher cost. So, doesn't Bill kind of subsidize, as well, during those peak hours? [LB557]

KRISTEN GOTTSCHALK: In that situation, I would think that it would be highly unlikely during peak hours that that energy would be flowing into the system because the owner of those solar panels is probably going to be the first user. [LB557]

SENATOR HAAR: But he's using less. [LB557]

KRISTEN GOTTSCHALK: But he is using less, and it is less energy that we have to purchase at that time. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR HAAR: Uh-huh. [LB557]

KRISTEN GOTTSCHALK: I would not say that he's providing a subsidy to the utility. [LB557]

SENATOR HAAR: Okay. That's a philosophical difference, but...(laugh). [LB557]

KRISTEN GOTTSCHALK: It is a philosophical question we might disagree a little bit there, so. [LB557]

SENATOR HAAR: Okay. Okay. Thank you. [LB557]

SENATOR BRASCH: Thank you. Senator Smith. [LB557]

SENATOR SMITH: Thank you, Senator Brasch and Ms. Gottschalk. Again, I know you're here speaking on behalf of public power, and public power, my understanding is, mission is reliability, accountability, affordability. That's what went into your mission. And from what I understand from your testimony you presented, what you provided us, your concerns are the affordability component of this. That there's a subsidy involved and there's some class of customer that's going to be paying for that subsidy. [LB557]

KRISTEN GOTTSCHALK: That's it. Yes. [LB557]

SENATOR SMITH: All right. The reliability, because once again the last I checked, we can't guarantee clear skies and we can't guarantee winds blowing. But going back to your role as public power and in the utility business, you love electrons, you love the flow of electrons. You really don't care where those electrons come from. [LB557]

KRISTEN GOTTSCHALK: As long as they hit our customer and we keep the lights on. [LB557]

SENATOR SMITH: As long as they meet those objectives of public power, reliability, affordability, and accountability. So, I think I'm just going to close with that. I think that's... [LB557]

KRISTEN GOTTSCHALK: Which explains why our opposition is the application of the solar garden into the net metering and not necessarily the concept of integrating renewable energy or solar energy into our distribution systems. [LB557]

SENATOR SMITH: And just one final thing. When it comes to renewables, our public power system today in our...the governance of our various utilities, they are self-mandating the use of renewables today, is that correct? [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

KRISTEN GOTTSCHALK: Yes. [LB557]

SENATOR SMITH: They are not required to do so, but they have chosen to self-mandate. [LB557]

KRISTEN GOTTSCHALK: Yes, I believe NPPD, OPPD and LES all have objectives within their business plans to integrate renewable energy. [LB557]

SENATOR SMITH: All right. Thank you. [LB557]

SENATOR BRASCH: Senator Haar. [LB557]

SENATOR HAAR: Just along that same line of reasoning, why is public power even messing with renewable energy? Why not just go on burning coal and building more coal-fire plants? [LB557]

KRISTEN GOTTSCHALK: Well, obviously, consumer demand is a component of that. The other component is that you benefit with your electric generation when you have the diversity of resources adding into the mix, and renewables are a component piece of that. By virtue of their intermittency, unfortunately, they can't be a large component of that because of the backup generation needs. You still need to be prepared, but they do have a role in the resource mix. [LB557]

SENATOR HAAR: Do you--and this is probably a personal opinion--feel that, you know, 50 years from now we'll be burning as much coal as we are now? [LB557]

KRISTEN GOTTSCHALK: No, I don't believe so. And I think actually...and the reason for that isn't necessarily that our energy demand is going to go away, but our efficiencies in generating electricity will continue to increase. And even with the renewable energy resources, we're going to see increases in technology that allow us to blend them in at a greater rate with less cost into the system. You know, we...when you look at energy use in general, we have more and more things that we have plugged in, but we've become more and more efficient with those individual items. And so, I see us continually playing a balancing act based on what's happening with new technology. What are the new generation resources? Where are the efficiencies going to come in? And that includes efficiencies at the consumer level. [LB557]

SENATOR HAAR: One more question and then I'll quit dueling with Senator Smith. (Laughter) One advantage of solar, isn't it true that it helps with peaking? And peaking power is pretty expensive if you have to buy it somewhere else. [LB557]

KRISTEN GOTTSCHALK: You know, I'm going to caveat my answer. Yes, but...as we heard before, two megawatts of solar energy can take a significant amount of landmass

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

in order to provide that as a resource. So, in order to get to a commercial grade level and commercial size of that generation, the costs are still...we've heard the costs are coming down, but the costs are still prohibitive to using it as a major generation resource. [LB557]

SENATOR HAAR: I've got to ask one more. You said the cost of land because it takes up a lot of landmass, but here that would be true if public power provided the solar gardens. [LB557]

KRISTEN GOTTSCHALK: Right. [LB557]

SENATOR HAAR: But if individuals were providing, that's a private investment that public power does it, right, I mean... [LB557]

KRISTEN GOTTSCHALK: Right, and again that's not the area that we're concerned with. We're concerned with how it applies. You know, every home in a community could have solar panels on their roofs, they could aggregate that, and deliver that energy to the distribution system now. And the objection isn't with, you know, where it is. What I'm talking about is why, you know, if renewable energy or solar energy can offset at peak times, why aren't we doing more of it? From a utility level, that's the explanation... [LB557]

SENATOR HAAR: From a utility level. [LB557]

KRISTEN GOTTSCHALK: ...is the cost and the amount of ground required to accommodate that. But, you know, there's no objection with consumers having panels on their roofs and that's really not, I guess, not where our objection comes from and we don't disagree with you. It could be... [LB557]

SENATOR HAAR: Okay. Well, thanks. Appreciate it. [LB557]

KRISTEN GOTTSCHALK: ...it could be on the tops of cars, it could be. (Laughter) [LB557]

SENATOR CARLSON: Any further questions? Senator Johnson. [LB557]

SENATOR JOHNSON: The question and answer period was very good and maybe just kind of a wrap-up supporting solar energy, supporting the general concept, but hung up in the details. Are you willing to work with the committee, work with the introducer to perfect LB557? And I don't have a timetable for that, but... [LB557]

KRISTEN GOTTSCHALK: Right. We are certainly willing to start conversations about how solar gardens could be implemented into the public power system. We prefer to not

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

see it as a component of net metering because it, as an aggregated resource, it does not fit there. So, within the context of LB557 as the way it's written, I think we would still want to move away from that. But I think there is always room for conversations about how we can be more innovative in providing resources that consumers want. [LB557]

SENATOR JOHNSON: Thank you. [LB557]

SENATOR CARLSON: Any other questions? Seeing none, thank you, Kristen. [LB557]

KRISTEN GOTTSCHALK: Thank you. And I also submitted a letter, I guess I should mention, on behalf of Rich Walters from KBR Rural Electric Power. [LB557]

SENATOR CARLSON: We have that down. Okay, thank you. Any other opponents? Welcome. [LB557]

SCOTT BENSON: Good morning. I'm Scott Benson, S-c-o-t-t B-e-n-s-o-n. I'm the manager of resource and transmission planning at Lincoln Electric System. Some of this is going to sound a little redundant. Technically, we oppose the proposed bill, but again, we don't oppose the idea behind it. We're all for the proliferation of solar where it's viable looking to grow that industry here in our community and the state. LES currently has a program in place where we will accommodate up to 100 kW of a solar installation. We will pay the energy produced from that at higher than our typical avoided costs. It's an avoided cost based on our current price of renewables. And we also include, as a previous speaker mentioned, a capacity payment up-front, which is not in the proposed bill. We're currently working internally on a feasibility study to look at some other ways to promote solar in our community that's in conjunction with the city of Lincoln. Trying to study some other ideas in how we could provide an avenue for some of our customers who want to get involved to get in there if they have other hang-ups. So we're opposed...we're not opposed to the idea. We kind of think we're going down that road already. That's the basis for our opposition, is we believe the bill is not necessary. We kind of think we're doing a pretty good job and we want to keep going down that road and cooperate with everybody to give them what they're looking for. Now, on the actual language that's in the bill, we have a couple of concerns there. The first has been talked about, the two megawatt maximum size. There's a vast majority of our distribution area that would not support a two megawatt installation. We've talked a little bit about the size today. We're not experts on it, but I believe a pretty good rule of thumb is if you have an ideal plot of land, it's about six acres per megawatt. So that two megawatts is 12 acres. That would not necessarily be a concern of LES's, but it's something to be concerned about. That's a pretty big piece of dirt if you're going to put that much solar in. If it was up to us, we would prefer to see a size that's something easier to accommodate, more around that 100 kW, where we think we can take that pretty much everywhere on our distribution system. You get up to two megawatts, that takes some engineering study to figure out where you can put that and it just can't go everywhere.

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

Another concern we have, not quite as big but it's worth noting, is with the virtual net metering again. If you were going to work that where the utility was responsible to track the various shares of the participants and credit them or pay them, depending on how it worked based on that, there's a couple of ways you could go about that. One would be, obviously, automating your customer billing system. Those are rather complex systems. They take a lot of time when you make changes. They take a lot of time to make sure that your changes didn't mess up other things that are already in there. That can be quite costly. That would be a cost that would be borne by our other customers who are not participants. The other thing you could do is you could try to administer the program manually and that probably works with a small infiltration. If the penetration gets larger and you're doing more of them, again, that would kind of become costly and overbearing. Thank you. [LB557]

SENATOR CARLSON: All right. Thank you for your testimony. Senator Haar. [LB557]

SENATOR HAAR: So, if I...tell me again. You're not opposed, but you're opposed to solar gardens. So tell me, what part you're opposed to, and what part you're not opposed to. [LB557]

SCOTT BENSON: As I specified, we would be opposed specifically to this bill on the size, the two megawatt size. We believe that's a problem. And then also on the virtual net metering because if you got a program going that had any kind of penetration, you'd have to roll that into your customer billing system, and that could be complex and costly. [LB557]

SENATOR HAAR: And what part are you supportive of? [LB557]

SCOTT BENSON: Like I said, we're already under the pursuit of doing some community-type solar projects. We're set up for the net metering. The stuff we're working on with the city, that's looking at trying to provide an avenue like has been talked about today. Some of the people don't have a roof that faces the right direction; they rent, so they can't even put anything on the roof; maybe they don't have the up-front costs. We're trying to work on some avenues that might allow them to buy into a project kind of on a monthly basis and get through some of those hurdles. [LB557]

SENATOR HAAR: Would it...would...to buy into a project, could the project be a private project, or would it have to be a project of LES putting up and owning the solar panels? [LB557]

SCOTT BENSON: You could do it a number of different ways. You could look at LES going in and doing it. Another option, which is probably the preferred one for most people at this point, would be through what they call a Power Purchase Agreement. So that would be a third party coming in, installing the facilities, owning the facilities,

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

maintaining the facilities, and LES in turn would have a contract to buy whatever energy came out of those facilities. The idea behind a community solar garden is that even though LES would be buying that energy, we'd actually be serving as the middleman because the customer that came forward and said they wanted to participate, they'd actually be contributing to that. [LB557]

SENATOR HAAR: But, if ten people decided to do this, or three or five, whatever, to go through the PPA process and all that stuff, is pretty unrealistic, right, because of the legal work and so on? [LB557]

SCOTT BENSON: It probably depends on the ten people involved, I guess, and how excited they are about it. That was kind of our thought is it would be...if you were going to get something like this where the utility was involved, the idea was, you would try to get something of a big enough scale that maybe there's some economies there. You can do it cheaper than people could do on their own. And you get it big enough that you can help kind of run that through and navigate some of the red tape for them. [LB557]

SENATOR HAAR: And so you're doing this for LES. I live in Norris. I want to participate. How do I do that? [LB557]

SCOTT BENSON: Well, you know, and that's the thing. It would all be your utility and your service area, but I know we're not the only ones that's been mentioned today looking at doing things like this. And once somebody is able to come up with a model that might work, it's been shown that it's been adopted by the other utilities. [LB557]

SENATOR HAAR: There are 165 public power entities. So, that means if people around the state want to do this, got to be negotiating with 165 entities and LES is doing its job, but that makes it pretty difficult for the other people in the state, doesn't it? [LB557]

SCOTT BENSON: Depending on what your utility offers, yeah, you've got some limited choices there. [LB557]

SENATOR HAAR: Do you know of any other utility in Nebraska that offers what you're doing? [LB557]

SCOTT BENSON: No, not anything exactly like. And again, we don't offer it yet either. We're going through and studying how it would work. It's a new thing for everybody. It's a little bit complex. You want to make sure you've got all your ducks in a row before you launch something. [LB557]

SENATOR HAAR: Well, net metering was...you had to go deal with your own public district, too, and four years ago we made that statewide. Are you...do you object to anything that's statewide, or, you know, I'm saying...how do we move from...so that

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

people around the state, and there may be five in this community and ten in another community, this is not going to take off with huge numbers of people doing it. [LB557]

SCOTT BENSON: I see the intent. You want to roll out something so that everybody in the state has an opportunity. The question is, at what scale do you do that? If you wanted to move forward with this and make it a statewide opportunity, I think you...that's where you get into some of the language in looking at the size, and how the billing needs to be set up because if we're not careful, we make something that tends to start to impose on the customers that did not sign up for the program. [LB557]

SENATOR HAAR: Okay. And what would that be...in LES's case, what elements are imposed on customers that don't sign up for the program? [LB557]

SCOTT BENSON: Again, if you look at a two megawatt size, right now we're at 100 kW and what we're basically saying is, if you say you come forward and I want to put 100 kW here, we believe we can accommodate that. If you're looking at two megawatts, that takes some engineering study to make sure that we can accommodate in the various locations. Because there's a lot of them that we're not going to be able to. That's a cost that's now being passed on to the rest of the customers. The flip-side, the other one is the billing. If we really try to roll this into our customer billing system, that's complex. That's going to cost some money and that's a cost that, again, gets rolled off to the other customers that did not participate in the program. [LB557]

SENATOR HAAR: But, certainly would...you know, and I've heard too, that the LES billing system is pretty new but it's very difficult to change. So, does that mean that you can adapt to the future? I mean, anytime you adapt to something new, you're going to have to change that billing system. [LB557]

SCOTT BENSON: That is correct. I haven't seen all the billing systems in the world but I have yet to see one that doesn't cost a lot of money to change. (Laughter) There's a... [LB557]

SENATOR HAAR: So should there be no change then? [LB557]

SCOTT BENSON: Nope. You know, depending on how things go, eventually something gets big enough, then that's what it does, things change. LES would prefer a model and there's other states that are using this, where instead of saying the utility is going to be in charge of kind of tracking all these individual shares, and handing out credits and payments based on that, they usually have one up-front man or a primary stakeholder. And the utility says, okay, every month we're going to provide you a payment based on what your output. If you have ten people that are in your cooperative, you will turn around as the primary stakeholder and distribute that money you made to them. That makes it so you get a...accommodate the situation, you get to put out your solar garden,

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

but you haven't imposed those costs on the utility to try to update their billing system to accommodate it. [LB557]

SENATOR HAAR: But then, someday, if enough people do this, you're going to have to change your billing system. [LB557]

SCOTT BENSON: That will be correct. [LB557]

SENATOR HAAR: Okay. Thanks. [LB557]

SCOTT BENSON: As the prices change and it becomes mainstream, obviously, you're going to have to adapt. [LB557]

SENATOR HAAR: Okay. [LB557]

SENATOR CARLSON: All right. Any other questions? Yes, Senator Smith. [LB557]

SENATOR SMITH: Thank you, Senator Carlson. And, Mr. Benson, thank you for coming and testifying. And I know you've chosen the profession in the utility business, and you represent public power well, I'm certain, based on the exchange and the role that you have at LES focusing on reliability and affordability for the ratepayers. I know, we've touched on some accountability issues here and some policy issues and that's probably a little bit outside of your area of expertise, but just as a very brief refresher for myself and maybe some of my colleagues, can you explain the difference between when we make a reference to capacity and energy, there's two different things going on there. From a utility standpoint, can you just give a very high-level explanation of the difference between capacity and energy, and then, you know, how solar fits into meeting each of those requirements? [LB557]

SCOTT BENSON: Yes. So capacity, that is reference essentially to your utility that ties into your peak demand. So our peak demand at LES might be a little under 800 megawatts. So we've got to have enough capacity or generation at any one time to meet potentially a peak of 800 megawatts. Energy, that's what you take over time. That's in units of megawatts hours. So it's not actually looking at a peak, it's more looking at the area under your consumption. So if you took your house, for instance, and you drew a curve--kind of do this in the air here--well, around 4 o'clock in the afternoon, 5 o'clock, you might peak. That's the most you took. We have to have enough capacity to cover that for your house. The energy you consumed is all the area under that curve. That's all the power you consumed over a period of time. Where solar comes into that, go a little bit deeper here for you. Tell me if this doesn't work. LES is part of the Southwest Power Pool, our regional transmission organization as part of...and so is NPPD and OPPD. As part of SPP, they basically dictate to us how much capacity you have to have. It's a percentage above your peak load. And then as that

entity, they also tell us how we can rate our capacity. So, for a thermal fire plant like coal or natural gas generation, you run that for a period of time, a couple hours, and you show that, hey, look, I can get this much out of my plant. And typically, that's the same number. If I put in a gas plant, that's nameplate capacity of 100 megawatts, I typically can operate that at 100 megawatts for those two hours and they credit me that full 100 megawatts of capacity. With wind and solar, they use historical data to look at what you've been given. And what we've seen there, and we've used some consultant data, and some of our own data on wind, on wind we see a capacity of about 1 to 3 percent. So, if you put in 100 megawatts of wind, SPP will give you credit for somewhere in the 1 to 3 megawatt range, basically nonexistent. For solar, for a long time we thought that was quite a bit better. We've done some recent studies last year as part of our integrated resource plan, and with solar according to SPP and using solar data from Omaha, we found that that's around 10 percent. So, if you put in 100 megawatts of solar, SPP will give you credit for having 10 megawatts. That's where you get into talking about everybody always getting in too well. If we put in solar or wind, we have to couple that with natural gas resources or other resources and that's based on that capacity. Yes, we get whatever energy comes out of them, but we have to have enough capacity to hit the peak load. Does that kind of make sense? Okay. [LB557]

SENATOR SMITH: Yeah, that's very good. And so, and you touched on the reserve margin as well. On top of your generation...well, on top of your demand, the SPP requires you to have a reserve margin available. What is that reserve margin currently? Do you know, roughly? [LB557]

SCOTT BENSON: It's either 12 or 13 percent. [LB557]

SENATOR SMITH: Twelve or 13 percent that you have to have that margin sitting out there at any given time to be able to share with other utilities when they may have a demand. They may have a power plant that fails, goes down, and within this power pool there has to be that sharing capability. So there's a lot of...there's a lot of intricate parts going on here. And from what I'm hearing, I want to make certain no one thinks that you're the enemies and I know you came in in opposition to this bill, but you're not the enemy. You love the electrons, you love the flow of the electrons, you're just...you're working under the constraints of trying to balance the system with all those demands on the system, and meet the objectives of public power which is affordability and reliability. [LB557]

SCOTT BENSON: That's correct. [LB557]

SENATOR SMITH: All right. Thank you. [LB557]

SENATOR CARLSON: Senator Haar. [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR HAAR: So, I'm going to draw in the air too. [LB557]

SCOTT BENSON: Okay. [LB557]

SENATOR HAAR: Okay. So if your energy use is like this, and your peak is up here, what does solar...one or two solar panels doesn't make any difference. But as solar penetrates more and more as it will in the future, what happens to that peak on my graph? [LB557]

SCOTT BENSON: You're saying if we had a large penetration of solar? [LB557]

SENATOR HAAR: Yes, yes. [LB557]

SCOTT BENSON: What would it do to the peak essentially? Obviously, if you put a large penetration of solar in, it serves to lower that peak. But again, on certain days, it will do a lot to lower the peak. Certain hours will do a lot to lower the peak. If you look at it from SPP's standpoint, they're in the business of making sure that the lights come on whenever you flip the switch over a large area. [LB557]

SENATOR HAAR: So what happens on any given day if you don't have enough generation, if LES doesn't have enough generation to meet the peak? What happens? [LB557]

SCOTT BENSON: Essentially, we're on the hook to have enough generation to meet the peak. That's that SPP criteria. We have to be able to meet our load plus a planning margin. [LB557]

SENATOR HAAR: But I heard there were times this summer when there wasn't enough generation capacity, where you had to buy it. Can you buy energy? [LB557]

SCOTT BENSON: You have to have enough capacity, basically, steel in the ground to meet your peak, plus that planning margin. That doesn't mean you have to operate at that capacity. If you can go out and buy it cheaper from the market, that's your prerogative. [LB557]

SENATOR HAAR: Okay. So as time goes on and there's more solar penetration, you probably have to buy less energy during those peak times. [LB557]

SCOTT BENSON: That's true. Because with solar, wind, renewables, whether you want energy or not, you get it when it comes out, yes. When it's spitting out the energy, that's less you'd have to worry about procuring or generating on your own. [LB557]

SENATOR HAAR: Yeah. Do you feel that this whole area is so complex that average

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

citizens ought to just stay out of it? [LB557]

SCOTT BENSON: No, I don't know that anything is ever so complex that the average citizen should look to stay out of it. I think the average citizen has to recognize some of the stuff we've talked through here today. That it's more complicated than it looks at first glance, and there's a lot of things to be considered. And there's always various viewpoints. LES, we're no different than any other utility. We're always balancing. You have customers who say, I would like to see you have more renewables in your portfolio and I would like to spend more to see that happen. We have other customers who will come to the same meetings and say, you know what, my money is tight right now. I want to see you do this and meet the load in the most economical fashion you can. Neither one of those is wrong. They're just different. And as long as people can understand that there's different viewpoints out there and we're trying to juggle it to make everybody accommodated in some fashion, I think then that takes care of it. [LB557]

SENATOR HAAR: The penetration of renewables is greater in every state around Nebraska, every state, yet we have one of the...only Kansas has more potential. Is it that we don't have the engineers, or we don't have the desire? [LB557]

SCOTT BENSON: I think what you have right now is, we're trying to meet a balance between getting renewables into our portfolio, but also looking at the economics of the system. [LB557]

SENATOR HAAR: But, do we have the engineers in Nebraska that could meet...you know, could raise more renewables if the people wanted it? Or is that just beyond our technical ability? [LB557]

SCOTT BENSON: If the people wanted it to where we said that was going to be a primary driver, I don't think engineering would be the drawback. [LB557]

SENATOR HAAR: So that the technology and the engineering is basically there. [LB557]

SCOTT BENSON: I believe so. [LB557]

SENATOR HAAR: Okay. That's it. [LB557]

SENATOR CARLSON: Okay. Any other questions? Senator Brasch. [LB557]

SENATOR BRASCH: Thank you, Chairman. And I'll try to make this a brief question. But I'm just very curious on the solar...the panels are in place, operations are going, who is the service provider? Say a lightning bolt comes down and all of a sudden my

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

solar panel is not functioning, do we call LES or do we call a vendor or...normally, I don't have solar panels. I have no electricity, I get on the phone and I'll call Cuming County Public Power District. Are you now responsible for the functionality, I guess, and the... [LB557]

SCOTT BENSON: It depends on the model of the program you're looking at. If you're putting solar panels on your own roof, then you'd be calling, probably, the person who was your installer. Just like if your refrigerator broke, something like that. It's plugged into the outlet, but you don't call LES, you'd call whoever probably put them in for you, or any number of other service providers in the area. [LB557]

SENATOR BRASCH: But as a consumer, I'm not aware, all of a sudden my lights are out and/or no heating or air conditioning. [LB557]

SCOTT BENSON: If you had an actual outage, you'd call LES because it's probably more than just your solar panel. [LB557]

SENATOR BRASCH: Okay. And then you'd probably send someone out, someone would look on, you know, and say, hey, it's your solar. You're going to have to call someone else. Okay. [LB557]

SCOTT BENSON: Yeah. Correct. If your solar array went out, odds are it's probably not going to take out the rest of your house or your facility. So you'd probably...wouldn't have an outage. If you experience an outage, odds are it's probably on our end, unfortunately, and at which point, your solar panels would kick out so it didn't energize the system. [LB557]

SENATOR BRASCH: I was just curious on the labor involvement of LES or any other of the public power district when it is...even though it's owned by the ownership, how...if you're rent or buying isn't, you know, spinning and your solar panel and...but it wouldn't matter? [LB557]

SCOTT BENSON: Well, if you have a large system, like if LES decided to put in their own solar system, then we'd own it. And so if it fails, we're in charge of finding someone to fix it and take care of that either by having building inhouse expertise or contracting that out. If you work under one of these power purchase agreements, like we're talking about where LES says we'll buy energy from a solar farm for 20 or 25 years, then it's the developer who built that solar farm, the onus is on them as part of the contract to keep it operating because if it fails to operate, then LES doesn't purchase any energy from them, that's not a good business model for them. So they kind of have weight on their shoulders to make sure it's always in the best operating condition it can. Does that make sense? [LB557]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR BRASCH: It does. And the reason I even went there is an analogy to Senator Haar's question of the interest or no interest. I'm thinking going on ten years ago, we could not get high speed Internet access to our farm. So 15 of us, collectively, we made Internet, but then after there was 15 of us in our garden, (laughter) pretty soon there was 200 of us in our garden, and we're farmers and ranchers. We don't want to be Internet providers and so we quickly found an LES or a public power or someone to take over this so we could continue business because we were not electricians. And this is what I'm wondering, if you start with these gardens, and, you know, is it going to reconfigure or shut down someone's electricity while people are ramping up learning how we can be gardeners and solar ranchers, so to say? (Laughter) [LB557]

SCOTT BENSON: The intention would be, no. [LB557]

SENATOR BRASCH: Okay. [LB557]

SCOTT BENSON: We would try our best to not have any reliability issues as things like this went out. [LB557]

SENATOR BRASCH: Okay. All right. Very good. Thank you. [LB557]

SENATOR CARLSON: Okay. Any other questions? Senator Kolowski. [LB557]

SENATOR KOLOWSKI: Thank you, Mr. Chairman. I've been sitting here listening and I had a presentation to make earlier so I'm sorry I was a little late getting in, but from Mr. Benson and all other presenters that we've had this morning, I think we've waited so long, and some people have waited very long. Some of the speakers we've had here this morning and their work on the solar issues in trying to get things done, and I think one of the comments from a previous speaker might sum this up when it was said that we haven't thought very deeply about this. It's time to really start thinking deeply about this. And I would ask and charge your companies to...although you're saying yes, we're into this, we want to do this, we know it's the future, how long must we wait before we really get the action and the fortitude to do something in a positive and constructive way to make a difference in Nebraska? All across the country things are happening. All across the world this is happening and why are we in such a seemingly delayed pattern sometimes on these things is beyond my comprehension, because it's there, it can be used, and we ought to be using it. So I just had a statement to make and I think it's important that we get that on the record as well. Thank you. [LB557]

SENATOR CARLSON: Any other questions? I do have one. And you may have said this, but I...there are times in the year where LES needs to purchase electricity, isn't there, to provide for your customers? [LB557]

SCOTT BENSON: We would have enough capacity to always meet our load. There are

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

times we purchase capacity because we can do it cheaper than we can from our own resources. [LB557]

SENATOR CARLSON: Okay. And to this point, that would be the only reason that you would purchase electricity because you can do it cheaper than what you're producing yourself? [LB557]

SCOTT BENSON: That's correct. It's purely economics. [LB557]

SENATOR CARLSON: Okay. Okay. All right. Thank you. Thank you for your testimony. You've been patient. We appreciate you being here. Okay. [LB557]

SCOTT BENSON: Thank you. [LB557]

SENATOR CARLSON: (Exhibits 11 and 12) Next opponent. All right. Anyone...we do have a letter of opposition from Rich Walters, KBR Rural Public Power District. Anyone in the neutral position to testify? All right. We do have a letter in the neutral position from Robert Byrnes of Oakland and with that, Senator McGill. [LB557]

SENATOR MCGILL: I'll try to be brief. Thank you all for your patience on this. This is a new area for me so I had no idea how long the hearing would be, but I know I learned a lot. So I'd like to thank everyone who came and testified. I learned about what Colorado did over the interim and so when I came back and started to ask questions about this, that's when I started to see there was real interest here in Nebraska on solar gardens. So, nobody within our state brought this to me and said, you know, we need to be doing this, I learned about what Colorado was doing. And I was very pleasantly surprised to learn about what LES is doing to try to be proactive in creating solar gardens. You know, there's a lot that can be done even without statute. I know that the two megawatts in here is very likely too much. We ask for way too much in that sense, and I'd love to work with the power entities to figure out what is the reasonable amount. And maybe LES has hit it right with the 100, but, you know, I envision, and I think the people in other states who started doing solar gardens, look at, you know, they are looking at the smaller co-ops that they are trying to form. They're looking at the schools and the churches within their own communities, looking at the roofs of those buildings and thinking, why the heck are we all not pooling together and putting a big solar panel on our elementary school that's right down the block. And so, how do we get from the current situation which really with the way net metering works, is just if it's on your house, the energy is going directly into just, you know, your house and looking the ins and outs and get to a place where we can benefit from putting a bigger solar array on the roof of a school, a library, or a church. And so, I am very interested in working over the next few months, maybe into next session on how we can push forward so that all communities can make this a realization so those who are interested, and communities that are interested, can take advantage of those flat roofs or, you know, these big

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

spaces that currently exist. Not looking at taking up land in a rural area or something, but these are buildings that exist that could be great for putting an array on top of them. [LB557]

SENATOR CARLSON: Okay. Thank you, Senator McGill. Any questions of the committee? All right, seeing none, thank you. [LB557]

SENATOR MCGILL: Thank you very much. [LB557]

SENATOR CARLSON: And we close the hearing on LB557. We're ready to open the hearing on LB598. Senator Larson, welcome. [LB557]

SENATOR LARSON: Thank you, Senator Carlson and members of the Natural Resources Committee. I'm Senator Tyson, T-y-s-o-n, Larson, L-a-r-s-o-n, representing District 40 from O'Neill, and I'm here today to introduce LB598. LB598 would raise the rate of capacity limits of those systems qualified to participate in Nebraska's net metering program. Qualified systems include things like wind turbines, solar panels, and facilities that generate energy through the use of hydropower, biomass, and geothermal resources. Right now the net metering statutes only allow qualified systems such as systems with a rated capacity of 25 kilowatts or less to participate. LB598 proposes to raise the rate of capacity limit to include systems that generate at or below 100 kilowatts. I'm bringing this bill on behalf of one of my constituents who wanted to see the system capacity limits raised so that larger systems would be allowed to participate in the net metering program. Right now, systems that generate 25 kilowatts or less of energy are the best suited to be used in residential structures or in small scale operations. Increasing the limit to 100 kilowatts would open up net metering potential for small businesses and farmsteads who invest in systems that would be beneficial to help meet the energy needs. The currently various incentives available for individuals and businesses who want to purchase these kinds of systems including federal business energy investment tax credit for those who purchase small entire turbines that have 100 kilowatt capacity. The majority of states with net metering programs have capacity limits set higher than we currently have in Nebraska. Often states have 25 kilowatt allowances for residential systems, but will provide higher limits for nonresidential, commercial and agricultural systems. These limits run anywhere between 100 kilowatts to up to one megawatt. The individuals that follow me will be able to answer your questions as to how this bill will benefit Nebraska and contribute to the development of our renewable energy industry. Thank you, and if you have any questions, I'd be happy to try and answer them. [LB598]

SENATOR CARLSON: Okay. Thank you, Senator Larson. Questions? Senator Haar. [LB598]

SENATOR HAAR: Yes, thank you. Thank you for taking the net metering light to a

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

higher standard. I appreciate that. So, the only element you're changing is the capacity?
[LB598]

SENATOR LARSON: Yes. [LB598]

SENATOR HAAR: Okay. Great. Thanks. [LB598]

SENATOR LARSON: Thank you. [LB598]

SENATOR CARLSON: All right. Any further questions? Seeing none, thank you.
[LB598]

SENATOR LARSON: I have another appointment, so I'll waive closing. [LB598]

SENATOR CARLSON: Okay. All right. Thank you, Senator Larson. We're ready for
LB598 and proponents. How many proponents do we have? Okay. How many
opponents do we have? Okay. All right. Welcome. [LB598]

DANNY KLUTHE: Thank you, Senators. Thank you, Carlson, for allowing this to
happen. I'm Danny Kluthe, D-a-n-n-y K-l-u-t-h-e from Dodge, Nebraska. I am a director
to Cuming County Public Power. I'm a director to the Nebraska Rural Electric
Association, but today I want to testify on behalf of Danny Kluthe, the hog farmer.
(Laughter) And what I've got here is a anaerobic digester where I take the hog waste
and run it through this and make methane gas. And the methane gas is pulled up to a
3306 caterpillar engine running a generator 24 hours a day, seven days a week. It
works fantastic. There is a number of reasons why a livestock entity would want one of
these. For one thing, I call it a manure processing system. All of the waste that goes
through this comes out odorless and the by-product is electricity. And in the state of
Nebraska, agriculture is the backbone of our economic system, and livestock is the
backbone of ag. And when you can take livestock and make them neighbor friendly, that
is huge, huge, economic development. And I know for a fact that livestock systems such
as mine pays huge taxes. And if there is ever another Boston Tea Party, I think I want to
apply. But anyway, in this state right now, we've got 25 kW net metering. And anything
that's got 25 kW or down, they're allowed to use their own energy. In a system that's
over that, they're called a generator and then you get...you have to sell it all to a
generator system and purchase it back at retail. And when you sell it, you get their
avoided costs. You know, I applaud LES. I understand that their net metering, they
moved it up to 100 kW and that is awesome. In my opinion, the majority of small scale
renewable energy projects are probably 100 kW and down. And if we are going to
promote renewable energy in this state, we have got to allow the people that purchase
these renewable energy projects to be able to utilize their own energy first and then sell
the excess. In this case, if you're above 25 kW, you're not allowed to utilize your own
power. You have to sell it all and buy it back. And I've been...I've had this anaerobic

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

digester on my hog enterprise system going on six years now, and I'm still the only one in the state that does this. Not because it's a bad idea, it's an awesome idea, but when they look at the cost of the system and then you can't even utilize your own power, you know, you have to sell it all and buy it back, they get a sour taste in their mouth real quick and we don't go past that. You know, I think there is so much potential and so much good that could come out of this, and I think it is time that we finally look up and say, hey, the majority of the small systems are 100 kW and down, and I think they should...we should step that up from 25 to 100 kW, and I think this is a great bill. And I see my yellow light is on, so thank you. [LB598]

SENATOR CARLSON: Okay. All right. Thank you for your testimony. Questions of the committee? Senator Dubas. [LB598]

SENATOR DUBAS: Thank you, Senator Carlson. Thank you, Mr. Kluthe. You've been a great expert for this committee as far as renewable energy and what you've been able to do... [LB598]

DANNY KLUTHE: Thank you. [LB598]

SENATOR DUBAS: ...for your own business. What capacity are you at right now with what you're able to produce? [LB598]

DANNY KLUTHE: I've got a nameplate of 80 kW. My generator will go up to 100. I found that out already, but I'm nameplated at 80 kW. [LB598]

SENATOR DUBAS: So then you're selling that excess back. [LB598]

DANNY KLUTHE: I sell it all, not excess. [LB598]

SENATOR DUBAS: Okay, you sell it all. Okay. [LB598]

DANNY KLUTHE: I sell it all to...well, Nebraska Public Power District right now buys it all. [LB598]

SENATOR DUBAS: Okay. And then you're buying it...you're buying what you need back. [LB598]

DANNY KLUTHE: From Cuming County. I'm a customer of Cuming County Public Power and I stay that way. And see, Cuming County Public Power gets their power from Nebraska Public Power District. So what Nebraska Public Power District does is puts it right back into the grid. And so, technically, anybody turning their lights on in Cuming County, don't know the difference whether it's coming from OLean Energy or Cooper Nuclear. [LB598]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR DUBAS: Very good. I lost my train of thought there. When we put this net metering in place, I mean, it took a while and a lot of negotiating and I certainly understand where public power is coming from, but there is that demand that is growing on the part of our citizens and our consumers. So are you feeling that we've had this 25 kW in place long enough that we...if we start to ratchet it up, whether we go all the way up to 100 or whatever it takes, we're ready to make that move. That the 25 kW has proved it's working and we can start to move this up and still have what we're looking for through net metering. [LB598]

DANNY KLUTHE: Senator, that is a wonderful thought. And yes, I think it's time. I know the demand is in place, you know. I think it's time, yes. [LB598]

SENATOR DUBAS: And you mentioned that as you talk to other people who are interested in this, but the minute they see that they have to sell so much of it back, so much of it, and then buy it back, that just kind of turns them off. So if we were able to go up to that 100, you think more people would actually put something in place? [LB598]

DANNY KLUTHE: That covers probably 90-some percent of all small renewable energy projects, all fall on 100 kW and down. Yes, that would be...that would be big. I don't know too many businesses that like to make a commodity, and then sell it and then buy it back for tremendous more than what you sold it for. I mean, that's not very good business. [LB598]

SENATOR DUBAS: Well, very good. And, again, I thank you for your leadership. [LB598]

DANNY KLUTHE: Thank you. [LB598]

SENATOR CARLSON: Senator Brasch. [LB598]

SENATOR BRASCH: Thank you, Chairman, and welcome, Mr. Kluthe. It's good to see you here and I just did want to...even though you're part of Cuming County Public Power and other...I'm speaking to the farmer here because you are not my constituent, even though you're Cuming County, because you're in Dodge County, but I did want to add that I've been to your operation on a number of occasions. And the last time I was there was when it was a Saturday afternoon and my husband was a captive audience and did come along, who is also a farmer, and he left there so excited beyond belief of your operation, 8,500 head of hogs, maybe plus, and you're right, you have turned everything that could be challenging into an asset, especially in the form of energy. And so moving forward, I know that, you know, we're looking at natural gas plus methane and other items. So this here would help you. I think, you're a farmer but you're also maybe somewhat of a scientist from what I'm learning. Can this help you moving

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

forward in other forms of, you know, how do we take our rural communities and revitalize everything from energy to business? Statement, question. [LB598]

DANNY KLUTHE: Thank you for your kind thoughts there. You know, when you can take in a livestock enterprise system and make them energy efficient, that is big. And, you know, I think that we are on the forefront of being able to do that. Now, I didn't mention that, you know, I learned to compress the methane. The methane, whether it comes from livestock enterprise systems or from the gas and oil fuels, it's natural gas, methane is methane. I did learn to compress that, so when I'm talking about energy efficient, I'm not only talking about electricity, but I mean that is the key point we're talking about now. We...when we want to become energy efficient, we want to be able to utilize what we have, and what we have to make it worth more. You know, efficiencies in every part of the industry is getting to be so tight and so good, so whenever we can capitalize on making a product worth more, and being more efficient and self-reliant, them are big words and so important. And when I heard that Senator Larson introduced this bill, I thought, you know what, it's time that we take a look at this because it's just so fitting with renewable energy that I think this is a really good bill. [LB598]

SENATOR BRASCH: I have no other questions. Thank you. [LB598]

SENATOR CARLSON: Okay. Thank you. Any other questions? Senator Haar. [LB598]

SENATOR HAAR: Yes. On my smartphone under company, I have you down as methane evangelist. (Laughter) And that's a compliment. So, you're actually compressing methane now? [LB598]

DANNY KLUTHE: Yes, I am. [LB598]

SENATOR HAAR: Okay. And then if an operation were big enough or whatever...well, certainly you're storing renewable energy, right? [LB598]

DANNY KLUTHE: The thing with methane, when I started from day one, if you produce methane, unless you can compress and store it, you have to flare it off. And when I first started, that's what I was doing. And every time the universities and the tech schools would send out their ag students, I would always challenge them. I'd say, you figure out how to compress this so we can store it and you and I will be very well off, and I figured that's where it was going to take place. And, you know, I've been working on it all along, trying to figure out how to get this done. And the Lincoln Journal Star ran an article on my operation when I first started, and then when I hit the five year anniversary date, they came out and ran another story on it. And a bioengineer saw that. He called me up and said, hey, I think you and me need to talk. This sounds really exciting. And so he came out and started filling in the blanks and between the two of us we finally...we had

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

a lot of highs and lows. Theoretically, a lot of things should work, but in reality, sometimes they don't, you know, and we had it, but in reality we weren't quite there, but we eventually did get it. And when I come to Lincoln or Omaha, I top my tanks off with natural gas. And, you know, you can take a...I believe natural gas has a statement that it takes 1.3 gallons of diesel to make a gallon of gas...of natural gas. We get a 30 percent increase in torque. There's a whole lot of efficiencies and I would love to talk about that, (laughter) but right now, we're on net metering. But, yeah, I mean, this opens up the field. When we talk about a livestock enterprise system becoming energy efficient, wow. It's here. I mean, we are capable of being energy efficient. By the way, all from a by-product, waste manure. Sometimes manure ain't a very interesting topic, it's really interesting. (Laughter) [LB598]

SENATOR HAAR: There's an operation near Mead. I think it, at one point, it went under. I'm not sure, but where they...ethanol...produce ethanol and feed the distillers grain to the cattle and then they generate methane that fires the ethanol and so on. So that would be another case where they can't use their own electricity, right? Or do you know on that one? [LB598]

DANNY KLUTHE: Actually, I'm familiar with that. [LB598]

SENATOR HAAR: Good. [LB598]

DANNY KLUTHE: But they weren't trying to make electricity. They were using the gas to heat the boilers. And the whole system was...the whole system should have worked really, really well. And I think the wrong people are managing it. You know, it didn't work, but it should have. I mean, they had a great theory there, but they were using a gas for heating boilers. [LB598]

SENATOR HAAR: Okay. Now which REA are you a board member of? Or didn't you say. I'm sorry, I missed it. [LB598]

DANNY KLUTHE: Cuming. Cuming. I'm a director to Cuming County Public Power. [LB598]

SENATOR HAAR: Okay. [LB598]

DANNY KLUTHE: And I became a director after I started this and I am a director to the Nebraska Rural Electric Association. [LB598]

SENATOR HAAR: Excellent. So locally, just like LES has raised their net metering limit, couldn't Cuming Public Power raise their limit voluntarily, or what have you heard? I'm sure you've suggested that. [LB598]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

DANNY KLUTHE: You know, actually all of those things can happen. Now somebody said 135 public districts, or whatever. [LB598]

SENATOR HAAR: 165. [LB598]

DANNY KLUTHE: 165, okay. What would be nice is to have one common denominator and not have to worry about if I cross the lines, now all of a sudden my system isn't anymore in compliance. What would be nice is if we could get one...had the whole state on one common ground. [LB598]

SENATOR HAAR: So, right now, you have to do a PPA, right? A power purchase agreement with...and with who, is that? [LB598]

DANNY KLUTHE: Nebraska Public Power District. [LB598]

SENATOR HAAR: With NPPD, okay. So if you were a net metering, if your operation could fall under net metering, you wouldn't have to go under the PPA anymore, you could just be a net metering customer on Custer Public Power, is that correct? [LB598]

DANNY KLUTHE: Actually, I'm not positively sure how the dust would settle on that particular thought. I believe...at least I could probably utilize my own energy first, and then I'd still probably be selling it back for avoided cost, but that...I have no issue with that. I just have an issue with not being able to utilize your own energy after you produced it first and then... [LB598]

SENATOR HAAR: Okay. Good. Well, thanks for being here. [LB598]

DANNY KLUTHE: You're welcome. [LB598]

SENATOR CARLSON: Okay. Any other questions? All right. Thank you for being here. We appreciate it. [LB598]

DANNY KLUTHE: You're welcome. Thank you for allowing this. [LB598]

SENATOR CARLSON: Next proponent and then after Mr. Winston, next proponent, be ready to go. Welcome, Ken. [LB598]

KEN WINSTON: Good morning, Chairman Carlson, members of the Natural Resources Committee. My name is Ken Winston, K-e-n W-i-n-s-t-o-n, appearing on behalf of the Nebraska Sierra Club. And I never get tired of hearing Danny Kluthe talk about this. I mean, he's just...it's got such a good message and anything that we can do to promote things like what he's talking about, I think is a...would be a good thing, because he's taking, as he says, he's taking waste material and turning it into a productive product

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

and I really think that's something we need to encourage. Well, let me get to what I was planning to say. But a lot of folks here were involved, and some of you weren't involved, but in the authorization of net metering statewide by LB436, four years ago. And at that time there was a lot of discussion about what the cap should be. And there was, I think, the bill originally started at 100 kilowatts. I could be wrong about that, but there was a discussion about that. And the idea was that the cap would be revisited fairly soon, and from the information that I've heard, I think it's time that the cap be revisited and I think the testimony that Mr. Kluthe gave is a perfect example of why that should be done. And I'm aware of the fact that some of the utilities already allow 100 kilowatts for net metering. Basically, by increasing the cap, it would be beneficial for agricultural operations, for small businesses, and I'm also aware of some nonprofits like...and some communities that are interested in doing net metering. There was a library that I heard of that wanted to put solar panels on their roof and they were...and it would be for more than 25 kilowatts. And so, all these kinds of things would be beneficial, and so we believe that the net metering cap should be increased. And as I indicated, it would be great to see more operations like Danny Kluthe's succeed. So with that, we would ask that LB598 be advanced. [LB598]

SENATOR CARLSON: Okay. Thank you, Ken. Any questions? Seeing none, thank you. [LB598]

KEN WINSTON: Thank you. [LB598]

SENATOR CARLSON: Next proponent. Welcome, again. [LB598]

JOHN ATKEISON: Thank you. Again, John Atkeison, J-o-h-n A-t-k-e-i-s-o-n. I apologize for not saying one thing earlier that's also relevant right now, which is that I'm a certified grid-tied photovoltaic installer myself. In fact, I brought you on a previous occasion the report we did and there's a picture on the front. And the guy up here, who you can't tell what it is, that's me (laughter) putting solar panels on a roof. And I say that just to suggest that there may be some kinds of technical questions that I could be a resource on and I'd be happy to do so at any time for any member of the committee. The...try not to repeat what Ken said...and oh, by the way, I represent the Nebraska Wildlife Federation and we support the increase on the limit. Personally, I didn't start down this path as an environmentalist. As I say, I come out of the industry. I've represented manufacturers, and so, you know, when I speak about the crashing cost of this stuff, it's something I have a personal experience with. The...what we're dealing with in a lot of these cases, including this one, is we're trying to balance the interests and the technical issues. And I think that the previous point that was made about we used to do 25 and now we know how to get...how to do more than that, I think that's very much to the point. The utilities have the responsibility to maintain their systems, which is hardware and software and people. And so, they, you know, they have a legitimate interest, and the rest of us also have a legitimate interest, in seeing a shift from more polluting to less

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

polluting sources of electricity, just to name one. And I think those are balancing acts sometimes, but I think in the interest of having a uniform situation across the state, that it would be very beneficial to increase the limit to at least 100. As what utilities are required to accommodate, I think it could go significantly more than that. But ideally what we would have would be a situation where the utilities were charged with figuring out ways to do this, so that, you know, it wouldn't be, you know, sort of this butting heads and no, you didn't meet this number, and you can't be more than that number. That's really what we need is a positive approach to it because I was looking on the back of my scrap sheet and I see that...I believe this is the original net metering. It says that nothing should prevent utilities from providing net metering to customer-generators having renewable generation units with a rated capacity above 25 kilowatts. So we're talking about...are we defining a floor or a ceiling? Are we defining obstacles or opportunities? And I think that's really, you know, where we need to go. But I would speak in favor of this bill and say that I think 100 megawatts...excuse me, 100 kilowatts is underestimating the abilities of our utilities. I think they can do more than that. [LB598]

SENATOR CARLSON: Okay. Thank you. Questions? Yes, Senator Haar. [LB598]

SENATOR HAAR: Right now, what would a typical solar panel that's put on a roof, how much would one produce, John? [LB598]

JOHN ATKEISON: We just moved up a notch as we have been doing fairly steadily, slowly, this is not computers, this is photovoltaics, from around 240 watts, nameplate capacity, to 250 watts, nameplate capacity. [LB598]

SENATOR HAAR: The reason I'm asking this is, we heard in the previous bill that there's some really...the public power has some problems aggregating solar at various sites. But now we could actually be reaching one site that would put out more than...pretty easily put out more than 25 kW. [LB598]

JOHN ATKEISON: I would think so, especially four panels per kilowatt of capacity. And as Scott is so ably...able to explain, a kilowatt is, is (inaudible) is the potential and every hour with one kilowatt of capacity, you produce one kilowatt hour, which is what you actually pay for on your utility bill. So, yes, it's...the capacity per acre is increasing over time, no doubt about it. The equipment is slowly but very surely getting better and better and better and better. [LB598]

SENATOR HAAR: So if we agreed for a minute we're not going to aggregate, but this allows individual private generators to go beyond the 25. [LB598]

JOHN ATKEISON: Much more easily than in the past, right. Very true. [LB598]

SENATOR HAAR: Yeah, yeah. [LB598]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

SENATOR CARLSON: Okay. Any other questions? Seeing none, thank you for being here. [LB598]

JOHN ATKEISON: Thank you. [LB598]

SENATOR CARLSON: (Exhibits 13-16) Any other proponents? Any opponents? And we do have four letters of support for LB598 from Bruce Kennedy of the Wachiska Audubon Society; Robert Byrnes of Oakland; John Hansen of the Nebraska Farmers Union; and Kevin Connot of the Advantage Consulting Group. Welcome. [LB598]

MARK VANSKIVER: (Exhibit 17) Good morning, Senator Carlson and members of the Natural Resources Committee. Thank you for the opportunity to testify today. My name is Mark VanSkiver. It's spelled V-a-n-S-k-i-v-e-r. I'm an engineer at Norris Public Power District. I'm testifying on behalf of the Nebraska Rural Electric Association, 34 rural electric distribution systems, and the Nebraska Power Association, a voluntary organization representing all electric utilities in Nebraska. In the interest of time, I'll highlight a few points from my written testimony that you now have. The first being that increasing the net metering limit from 25 kW to 100 kW will increase the opportunity for those who choose to install or cannot afford to install a DG facility to subsidize the few who choose to and can afford to become customer-generators. More importantly, coordination and safety issues are increasingly prevalent as DG facilities' distributed generation facilities become larger. The primary line current generated by 100 kW DG facility exceeds the rated capacity of protective equipment utilized on many single-phase distribution lines throughout the state. The potential for a DG facility to continue to provide energy to a fault, due to protective equipment not seeing the total fault current and therefore not operating, is worrisome. To protect the life and property, protective equipment needs to operate when designed to. Generation sources located downstream from protective devices increase the probability of these devices failing to operate as designed. A 100 kW wind turbine will likely produce significantly more power than a 100 kW. As DG wind facilities are rated by the power output expected at 24.6 miles per hour, not the maximum generation capacity of the facility. Utility scale wind turbines are rated at maximum generation capacity or cut-out. DG wind facilities should be rated this way as well. The current net metering law, as well as LB598, states that a qualified DG facility is intended to meet or offset the customer-generator's requirements for electricity. The current 25 kW limited mandate provides adequate capacity for the vast majority of residential customers to do exactly as the law states. A 25 kW DG facility with a 15 percent capacity factor could be expected to generate 68 percent more energy per month than is required to meet or offset the needs of the average Norris PPD residential customer. Costs and local ordinances limit the pool of potential customer-generators. If the goal of net metering is to reduce base-load generation or help Nebraska residents be green, other means of achieving these goals would be much more cost effective and obtainable for a greater number of residents. Energy

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

conservation provides greater value than energy generation and is accessible to more Nebraska residents. As an engineer, the benefits provided to DG facilities in comparison to non-DG customers seem misguided. As a non-DG Norris PPD residential customer, it is frustrating to realize that I subsidize the favored few who install DG facilities, when I have my own conservation projects to finance. In closing, the current law provides ample opportunity and incentive for those who wish to become customer-generators to do so. Thank you for your time, and I'll gladly attempt to answer any questions you may have. [LB598]

SENATOR CARLSON: Okay. Thank you, Mr. VanSkiver. Senator Haar. [LB598]

SENATOR HAAR: Yeah, so this is the official position of the Nebraska Power Association? [LB598]

MARK VANSKIVER: I've provided testimony for them today, that's correct. [LB598]

SENATOR HAAR: Okay. And who prepared this thing? [LB598]

MARK VANSKIVER: I did. [LB598]

SENATOR HAAR: Okay. Did someone... [LB598]

MARK VANSKIVER: I wrote that. [LB598]

SENATOR HAAR: Okay. And then you gave it back to them and they said, this is fine. [LB598]

MARK VANSKIVER: Yes. [LB598]

SENATOR HAAR: Okay. When you talk about safety, no matter if I put in a five...you know, if I put in one solar panel that I can buy from Best Buy, I think now, or whatever, I still have to have...it has to have electrical protections, right? Because you made safety a big issue. [LB598]

MARK VANSKIVER: That's correct. That's correct. [LB598]

SENATOR HAAR: Okay. Are there safety devices, electronic devices and so on that will take care of 25 kilowatts? [LB598]

MARK VANSKIVER: There are...yeah, there are devices that will handle that. [LB598]

SENATOR HAAR: What about 100 then? [LB598]

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

MARK VANSKIVER: There are, but are they currently in position right now? Distribution lines, you know, throughout the state they're designed to supply power to that end-use customer. The concern being that the energy that is generated by say, a 100 kW system versus a 25 kW system, that that power is greater at 100, obviously. It puts more amperage on the primary line and current protective devices might not be in certain areas, not all, but in certain areas at size to accept that capacity. [LB598]

SENATOR HAAR: So, are the safety devices on the part of the producer or the electric company, the public power company? [LB598]

MARK VANSKIVER: On both sides. [LB598]

SENATOR HAAR: On both sides. So, can you identify those areas where there is that...I mean, if I...no matter what size I put on from my standpoint, I have to have the safety in place. That's according to the law. But can you identify on Norris where you have safety devices that would take care of the 100 versus 25? [LB598]

MARK VANSKIVER: We have protective devices throughout our system, as well as do all the utilities across the state. [LB598]

SENATOR HAAR: And what's their capacity? Because you were saying that's where the problem is. [LB598]

MARK VANSKIVER: They vary, Senator. [LB598]

SENATOR HAAR: Do you know on the Norris line where those safety devices are in place that would take care of 100 kW? [LB598]

MARK VANSKIVER: I would have to get a map out to show you. [LB598]

SENATOR HAAR: Okay. I'd like to see that, I guess. [LB598]

MARK VANSKIVER: Okay. [LB598]

SENATOR HAAR: And then when you said, there are other sources that are better able to deal with people who want to generate electricity, what are those other sources? [LB598]

MARK VANSKIVER: I wasn't speaking to generating electricity. I was speaking to efficiencies and efficiencies being utilizing less power to do what you are currently doing. So, I guess, I'm talking about...for me personally, I guess, to make this easy, I can't afford to go out and buy a 25 or 100 kW, whichever, if it's wind or solar, but I probably can afford to update my HVAC system or install insulation. And those

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

efficiencies are more obtainable to a greater number of residents due to, you know, various factors. And I think those efficiencies should be, you know, looked at before generation. [LB598]

SENATOR HAAR: So, you know, in terms of talking about mandate, so Norris Public Power would say to customers, do energy efficiency, don't generate electricity. [LB598]

MARK VANSKIVER: We're not going to discourage generation if a customer wants to generate. In fact, we have 18 customer-generators currently interconnected. [LB598]

SENATOR HAAR: And my neighbor has...is one of them. But I'd like to see that map because, for example, for Norris, I'd like to know where safety is really an issue because you made a big deal of that. And as somebody said on the last one, I think we need to talk about opportunities instead of just obstacles because as we move into the future, there's going to be more and more distributive generation. There's just no question about that. [LB598]

MARK VANSKIVER: Sure. Well, and I guess, you know, speaking of protective devices, their sized depending on what is behind them. And if, you know, if a customer comes to us and says, I want to install a 25 kW solar panel right here, we would have to look at that and say, yep, okay, we're okay. If you'd come to us and say, I want to sell 100 there, the probability of that being okay is less likely than a 25, and I guess that's the point that I'm trying to make just because of system design. [LB598]

SENATOR HAAR: Right. But I guess what I need to know if safety is an issue here, is what you're talking about a big problem or a small problem, or could that be solved at least letting people know, you know, say, okay, our lines can take 100 kW and if they can't take that, then people could be notified that it's because of that line that they can't install 100 kW. [LB598]

MARK VANSKIVER: Sure. Yeah, it's a solvable problem. It's a solvable problem. [LB598]

SENATOR HAAR: Okay, well, I'd like to see those maps at some point if I could for Norris. [LB598]

MARK VANSKIVER: Sure. [LB598]

SENATOR HAAR: Because I'm in the district and I get good power, and thank you very much. [LB598]

SENATOR CARLSON: Any further questions? Well, thank you for being here. I know a little bit about your background. You grew up in a power...knowing quite a bit about

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

power and thank you for your testimony today. [LB598]

MARK VANSKIVER: Thank you. [LB598]

SENATOR CARLSON: Okay. Any other opponent? Welcome. [LB598]

KRISTEN GOTTSCHALK: (Exhibits 18-22) Senator Carlson, members of the Natural Resources Committee, my name is Kristen Gottschalk, K-r-i-s-t-e-n G-o-t-t-s-c-h-a-l-k. I'm the government relations director and registered lobbyist for the Nebraska Rural Electric Association, and I'm here today to provide very brief testimony on behalf of the Rural Electric Association. Mark did a good job. In fact, it's nice having somebody with more of an engineer background provide testimony on this bill. One of the things that kept coming up in the earlier testimony is they refer to the 25 kW as a cap and indeed it is not a cap. It is meant to be that the lowest common denominator that everybody had to ascribe to. And that was put into place for a number of reasons, safety being one of those issues. And also issues related to the contracts that electric utilities may have with a wholesale energy supplier. In the case of the Panhandle systems who are consumers of Tri-State Electric G&T, they are not allowed to install electric generation greater than 25 kW on their systems without some kind of negotiated process with that wholesale supplier. When we originally started net metering, that was also the case with NPPD and that amount has increased and it just has been done so that the utilities can have an ongoing dialogue with their wholesale supplier, because in general their requirements contracts are all requirements for the utility. One of the other things prior to this hearing, I did poll my members to see what the demand level was for 100 kW systems to be installed on their distribution systems. In fact, we're not seeing a demand for larger systems. In fact, most of the installed systems in the requests from our consumers tend to be in the 2.4 to 10 kW system. And a majority of the installed systems are in that level. So we don't see the demand for 100 kW system, which typically can be in the quarter of a million dollar range for purchase of the system, not including installation by the vendor. So with that, I just wanted to mention that the 25 kW, reemphasize is not a cap, it's a threshold. And we do believe that at this stage, and we are seeing installations at a fairly good clip, that the discretion to go above 25 kW should be retained by the local distribution systems that have a better understanding of what is and isn't appropriate on their distribution system. The other purpose that I have in sitting in the chair again is to submit testimony on behalf of Tom Rudloff from Elkhorn Rural Public Power District; Jim Dietz from Twin Valleys; John Hoke from Niobrara Valley; and Rich Walters from KBR Rural Electric Power. And with that, if you have any questions, I would be happy... [LB598]

SENATOR CARLSON: Okay. Thank you. Any questions? Senator Dubas. [LB598]

SENATOR DUBAS: Thank you, Senator Carlson. You talked about the polling that you did amongst your members and that there doesn't seem to be a demand for that 100

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

kW, but in earlier testimony it was...I got the impression that the demand might be there if there was this higher threshold, because then it would be cost effective for them to do it, because right now because of the cost you just stated, they're not seeing the benefits. So, is there, that there's not demand, or is it because of that threshold, it just doesn't work for them financially? [LB598]

KRISTEN GOTTSCHALK: Well, I'm not sure I understand fully what your question is. The financial situation is based more on the cost of the systems. Whether or not a consumer can net meter a system is probably not going to be the make or break issue. Earlier when we first debated net metering, it was determined that in order for you to begin to see some payback on these types of systems, you would have to have electric rates in about the 11 cent, 12 cent per kilowatt hour retail charge. And that, in fact, has never really been the case in Nebraska. Our rates are below that. So as far as net metering being that deciding factor and, you know, can you afford to put it in place, is net metering the deciding factor, the answer is more likely than not, no. There is a need for additional subsidization for these systems to be cost effective. Not everybody who puts them in cares about the dollar payback. That's not important to everybody who puts the (inaudible) in. It may simply be because they want to be more green, they want to generate their own resource and use it, and cost may not be a factor. [LB598]

SENATOR DUBAS: The concern about the subsidization of this and especially as we go higher, do the REAs see that there is a benefit, even if it may be an indirect benefit to their consumers by having more renewable type energy sources in their portfolio? [LB598]

KRISTEN GOTTSCHALK: At the distribution level we're probably not going to see a tremendous cost-savings benefit to the distribution system. In fact, it's going to cost more to have them on than it does to not have them there. As far as benefits, it's probably a better question for an engineer, but because we've heard these stories, well, if you put it at the end of the line, it's going to benefit the system. Well, not necessarily. It depends on how many users are between the generation and the maximum use of that line system. And that's where it comes in that there has to be a balance of resources on those lines. So as far as equating benefits to the distribution system, they are actually minimal. [LB598]

SENATOR DUBAS: There was some mention in the previous testimony about the types of conservation practices that individuals can take advantage of and I think that's great. In fact, I think there's a lot of opportunity for conservation as well as renewable energy generation, etcetera, in the big picture. And again, going back to that subsidization where the many are subsidizing a few, are you aware of any subsidy-type programs that help with conservation for individual homeowners? Are there grants...? [LB598]

KRISTEN GOTTSCHALK: Yes, there are state and federal programs that provide for,

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

you know, insulation, energy audits. Some electric utilities also offer rebate programs for higher efficiency air conditioning, hot water heaters, these types of things. Many systems are going to load control, not just for irrigation, but for hot water heaters and other consumer-driven resources. And if the utilities were going to look at where their dollars are better spent, the majority of them are going to say in energy efficiency and conservation areas. [LB598]

SENATOR DUBAS: When we passed the original net metering, I do believe there was that understanding that we would come back and revisit where we're at and, you know, your comment that you feel it's best left to the individual REAs to look at this and make a decision. Are you feeling like this is where it needs to stay and we don't want to revisit it, or are they open to REA by REA taking some input from (inaudible) consumers? [LB598]

KRISTEN GOTTSCHALK: I think our individual electric systems and I'm, of course, just testifying on behalf of mine, prefer to look at the installation of renewable generation on a case-by-case basis, the benefits for the system, the cost to the other consumers on the system. As far as revisiting it, a number of them have. I mean, we do have...while we may have in the net metering category smaller systems installed, I do have some systems that have allowed the installation of renewable generation in a simultaneous by cell situation where they pay them at a higher than avoided cost because they wanted to see how they'd manage it on their system. Plus, it was a demand from a customer, so they're not ignoring the demands of the customer because 25 kW's in statute. It's their discretion to do what's best on behalf of all of the consumers on their systems versus one or two consumers that can spend a little bit more money. [LB598]

SENATOR DUBAS: Thank you. [LB598]

SENATOR CARLSON: Senator Johnson. [LB598]

SENATOR JOHNSON: Thank you, Senator Carlson. Thank you, Ms. Gottschalk. We've...I wasn't on the committee. It wasn't in the Legislature when net metering started and that so, maybe these questions are out of line, but primarily we've talked about solar. We've talked about wind. We've been introduced...I've been introduced a little bit more. Heard Mr. Kluthe talk before. I know there's an industry within my district that takes from the landfill, methane. Is there a way we could look at this for the value to the livestock industry where it appears at least for one individual that it's very economical to build a unit that could go up to 100. I don't know for sure what the one in David City, what they produce, but is there a way that we could allow that industry to have a different net metering clause? [LB598]

KRISTEN GOTTSCHALK: Senator, some states have applied net metering levels to various entities. You go into some states, they apply net metering across the board, to

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

investor-owned utilities only, up to a certain level. I don't know that I've seen that done before. I think we have the discretion to do that now to negotiate those net metering contracts for ag processing or...an ag facility. But it...because of the beneficial nature of the business doesn't change the other factors that come into play, and that's the utility should have the discretion to determine what benefits all of its consumers, not just a few, the safety features involved, and the subsidy involved. But, I guess, I'm never going to say that the door is closed. And you said this is your first year, the first time you've heard net metering. I've been doing this since 1999 and I can't remember a year when we haven't talked about net metering. [LB598]

SENATOR JOHNSON: I know it's been discussed. Thank you. [LB598]

SENATOR CARLSON: Okay. Thank you. Senator Haar. [LB598]

SENATOR HAAR: Well, kind of what I've been hearing all morning is, if public power doesn't initiate a change, it's a subsidy. So how is...how is Mr. Kluthe's operation, how is that looked at as a subsidy? [LB598]

KRISTEN GOTTSCHALK: In Mr. Kluthe's situation, of course, he came on line before we passed net metering legislation, and it was at a time when because of the nature of the contract with NPPD, he needed to do his business with NPPD. [LB598]

SENATOR HAAR: Right. And I understand that. But if we look at it in the discussion that's been here today, it says that we're...everybody else is subsidizing Mr. Kluthe because he's a generator. Would you agree with that? [LB598]

KRISTEN GOTTSCHALK: I would not agree with that. In Mr. Kluthe's situation since he has a contract with NPPD to buy the output of his resources, you know, at a straight cost that seems to benefit both Mr. Kluthe and NPPD, there's not a subsidy necessarily involved in that. If Mr. Kluthe was net metered...in his current situation, he generates on to three-phase distribution. His hog operation, unless something has changed and I hate to speak for him, is on single phase and he bumped up his size of generation for the efficiency. And so in that situation it wasn't going to work for him to use energy and then redistribute it. And if he were net metered, if all things were equal what he's using and what's he's generating were at levels that they could do that exchange, the subsidy would come in his ability to use the distribution system during the exchange of energy and in the delivery of excess energy on the backs of the other consumers. That's where that comes from. [LB598]

SENATOR HAAR: Now in the law, and the trouble is that, I mean, you have low cost dependable in one section of the law, and the consideration that economic development should also be considered in another part, and that gets to Senator Johnson's question. So when does subsidy balance economic development because that's also a charge of

Transcript Prepared By the Clerk of the Legislature
Transcriber's Office

Natural Resources Committee
March 05, 2013

public power is to foster economic development. [LB598]

KRISTEN GOTTSCHALK: Yeah, and that's a good question and in saying that, we tend to make the assumption that we're not looking at that avenue. For example, I have a system in the western portion of the state that it's too costly to build a power line out to a stock tank well. Doesn't benefit the other consumers and it would be too costly for the owner of that stock tank well. So in order to still allow him to run cattle on that area and have water at that well, they've developed a program where they lease out solar trailers. And then that landowner is able to move that trailer from... [LB598]

SENATOR HAAR: But in the case of Mr. Kluthe's operation where he might figure out this way to actually sell some of that propane and so on, I mean, that's economic development for rural Nebraska. So, shouldn't we consider the economic development with net metering along with the subsidy? I mean, cost and benefit always have two sides of a coin. [LB598]

KRISTEN GOTTSCHALK: And I think we've done that in agreeing to pass the original net metering law. There's a subsidy involved and there was a level of subsidy that I think a majority of the electric systems, not all of them, felt comfortable in providing to consumers so that they could, indeed, begin to install these things. Net metering subsidies as a way for an individual to sell compressed methane, I think those are two different areas, and I don't think we have anything in statute that would prohibit an individual like Danny Kluthe from selling compressed methane from his facility. [LB598]

SENATOR HAAR: Well, not any further today, but I think we need to explore this whole idea of subsidy, that anytime, for example, people generate electricity, the...or net metering, basically, net metering is a subsidy. And I think it's a benefit and I think it needs to be...we'll explore that further. [LB598]

SENATOR CARLSON: Okay. Thank you for your testimony. [LB598]

KRISTEN GOTTSCHALK: Thank you. [LB598]

SENATOR CARLSON: Any further in opposition? Anyone in a neutral position? Okay, seeing none, thank you for coming. We'll close the hearing on LB598 and thank you for coming, and I know there's another hearing immediately when we vacate and they're ready to come in. Thank you very much. (See also Exhibits 23-26.) [LB598]