

SEN. KENNEDY (12TH): Any other questions from members of the committee? Thank you very much. Good luck to you and we look forward to working with you as we put together this legislation to try to make it easier to find, you know less cumbersome permitting pathway and other things that we need to do as a State to promote this technology and to help more farmers, so thank you very much for coming here today. James Muir.

JAMES MUIR: Well Senator, thank you for having this meeting today. My name is Jim Muir. I'm a Connecticut resident and I represent RCM Digesters, which is America's oldest anaerobic digesting design and build technology provider and we built the digester on that Freund's farm several years ago using an older technology. There are only two major American based technology providers in the country and together we produced about 70 percent of the digesters. There are about 220 digesters in the country and by that I'm talking about farm digesters or manure digesters. There was a confusion earlier about this compared to wastewater and I'm realizing right now there's a lot of ground to cover and I don't wanna--I'd just like to make some general statements about the market and leave it there. Anyway, there are about 220 anaerobic digesters on farms in the U.S. There are 8,000 in Germany, more than 1,000 in Italy. It's a very well proven technology internationally, but not in the U.S. The farm digesters in the U.S. are all concentrated in Wisconsin, New York, Pennsylvania, and Vermont, all States very close to us who have made this happen. It's not known as wind and solar is, it's benefits are not known, but they're tremendous in terms, in the sense that we actually take things that are bad, like methane and we convert it into useful things like heat and electricity. We're not just borrowing wind or borrowing the sun. Also we use pathogens in the ground and the water and the air. We make the farms smell good and what would really help us a lot is if permitting were made as easy as possible, recognizing the fact that a farm digester using cow manure or could use pig manure or in some cases chicken manure, is actually an easier digester to create because the manure acts as a buffer and the bacteria created there keeps the process going. When a 100 percent food waste digester is built, often manure is used to get it kick started, so it's a very well proven technology and if the permitting could be easy, recognizing the fact that there are already over 220 of these in the U.S., that would be great. The second thing that would be very helpful would be a higher price for electricity. Massachusetts are two of the digesters we've contracted there are getting 11 cents through that metering program. In Connecticut, the net metering has been limited, as far as agricultural farm digesters go. If that could be opened up to 11 cents, that would make a tremendous difference and a final thing that we could learn from the lessons of others States, like Vermont and Pennsylvania, the Cow Power Program in Vermont, a State very similar to Connecticut in many ways, that would be good.

SEN. KENNEDY (12TH): So, thank you Jim for coming. I'm really intrigued. I'm wondering, well if this is such a great idea and has such great market potential, why don't we have these facilities here. In Lancaster, Pennsylvania, there's roughly 25 of these.

JAMES MUIR: I was just there three days ago.

SEN. KENNEDY (12TH): And in Vermont, there's almost 20 of these.

JAMES MUIR: Seventeen for large farms, now they're moving to mid-size and smaller farms.

SEN. KENNEDY (12TH): So why don't we have this technology--why don't we have it in Connecticut?

JAMES MUIR: I started working with a company three years ago when I worked internationally for two years and what I was told and what I believed was true was that our electricity prices are relatively low compared to Europe and our construction prices are fairly high, our labor prices. Therefore, it made the digesters less economic. What I've come to believe is that the biggest problem is simply lack of information and the two companies I mentioned to you before are completely dominated by engineers. It's a very broad question to say an engineer is not a marketing salesperson, but there tends to be a different mindset. I'm not an engineer. I'm not a farmer. I come at this from a marketing standpoint. One thing I'd like to very quickly mention. The farmers in the State are hurting because of low milk prices. This will give them new revenue streams to survive and we've signed up two new farms from Modern Digesters and that's the entire reason they did it. There are farms that are on the verge of going out of business that are interested in this.

SEN. KENNEDY (12TH): So you have two farms in Connecticut?

JAMES MUIR: We have two farms in Connecticut that are contracted. You mentioned Peter Orr was going to be here. He's one of those farms from Fort Hill. I don't know if Peter's shown up yet and the other is Hi Tone in Coventry, Thompson and Coventry. We also have two in Western Mass that have contracted with us.

SEN. KENNEDY (12TH): So do these need some sort of subsidy to break even, or what's the deal with that? You mentioned the cost of power. I mean are farmers able to get financing? Just speak very briefly about the economics of running a dairy farm.

JAMES MUIR: There are a lot of moving parts. If this was four years ago, I think most farms, even some smaller farms could go and get the loan that they need beyond national grants to pay for a digester. Now that's very difficult to do because of the low milk prices and Vermont has excellent incentives. Pennsylvania has excellent incentives. Again, I talk about the Cow Power Program in Vermont, which as I understand it, people who care about the environment, can pay a few cents more for their electricity, this goes into a fund, and this has been paid to the farmer once he builds his digester because instead of getting 14 cents in Vermont, he can get perhaps 19 cents per kilowatt. That makes a project work, but the only way that digesters will go in Connecticut, lots of them is exactly what Matt was pointing out and that was taking in food waste and the tipping fees that come from the food waste, Southern New England has a very, very dense population and the food waste is concentrated here and we can take this food waste and make the digesters of reasonable size, that they can attract an investor. I have an investor for my projects. I realized this was necessary.

SEN. KENNEDY (12TH): Thank you. I think it's very intriguing and we would really like to look to you to help us understand what the experience is in other States and how we can you know not reinvent the wheel here in Connecticut, but take the best things about their program and their permitting pathways and adopt them here in this State, so we'll look to you for help and how to get that done, but I did wanna open it up. I see Representative Wilson has a question.

REP. WILSON (66TH): Thank you Mr. Chairman. Thank you for coming. So, again I'm a numbers kinda guy, so when I heard the gentleman from Canaan speak, he talked about a 250 herd to run his operation. Is the 250 the minimum viable size herd or is it smaller and how many of those herds are there here in Connecticut.

JAMES MUIR: Well there's two things you're talking here. You're talking about milking cows and cows and milking cows is usually what we go by. These are 1400 pound giant methane producing and there are--in my mind the minimum would be about 180 milking cows, with the addition of if the digester were 70 percent food waste or 75 percent food waste or 80 percent food waste, plus the manure from these 180 milking cows, the economics would work out on something like that. There are about, in my opinion, about 15, maybe 20 farms more than 180. In Vermont, they have a very interesting incentive, where they incentivize small farms to do this by saying if you keep your production under 150 kilowatts, we will pay you 19 cents a kilowatt, and if we did that, perhaps we might add another 50 or 20 farms, about 130 farms I think in Connecticut, so we're talking about--that's about what it is.

REP. WILSON (66TH): So would the smaller farms, the smaller herds bring their manure to a central place or would they be done stand-alone on each farm?

JAMES MUIR: In my opinion, if you had the 180 cows or even less, if you had this other program, you want the digester to be at the farm and bring the food waste there. You don't wanna transport the manure somewhere else. That's much more difficult and there are also many byproducts, like as Matt mentioned, there is vetting, there is heat that can be used by the farm, buildings could be piped out of the digester. You want it to be at the farm.

