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Petit, Piscopo, Steinberg,
Tercyak

REP. ARCONTI (109TH): Good morning, everybody. I'd like to convene today's Energy and Technology Public hearing, Tuesday, March 9th.

Before we get started, I'd like to open it up to remarks by Co-Chair and Rankings. Senator Needleman.

SENATOR NEEDLEMAN (33RD): Yeah. Good morning. And thank you all for joining us today. And looking forward to a great discussion about broadband issues.

REP. ARCONTI (109TH): Thank you very much. Representative Ferraro.

REP. FERRARO (117TH): Thank you, Mr. Chair. I echo the comment of my -- the Chair. Looking forward to today's testimony. And hopefully, we can learn a lot. And thank you all for joining us today.

REP. ARCONTI (109TH): All right. Senator Formica.

SENATOR FORMICA (20TH): Good morning, Mr. Chairman. Good morning everyone. Thank you for holding this hearing today. I look forward to listening and understanding what people are -- are having to talk about. And also trying to juggle for the first time three zoom meetings at once. So, I'm looking

forward to that challenge as well. Thank you, Mr. Chairman.

REP. ARCONTI (109TH): Best of luck to you in that endeavor. All right. So, for our first person -- or persons testifying, we're going to do it in a panel format for -- just for the Committee to know. So what we'll do is, we're going to have this panel, and then we will open it up to the Committee for Q and A, and you can direct whichever question you feel appropriate to whichever panel member.

And we will be starting off with Nick Simmons from the Office of Governor Ned Lamont. Vicki Hackett, Deputy Commissioner of DEEP. And I see Micheal Li, will also be participating for DEEP in the panel. Scott Gaul from the Office of Policy and Management. Burt Cohen from the Office of Consumer Counsel. And Doug Casey from Connecticut Commission for Educational Technology. That will make up the panel.

Unless they have a preferred order, we can go in the order I have it on the list. So, everyone will have their three minutes, and then pass it on to the next person. So if that's okay, we can start with Nick Simmons from the Office of the Governor.

NICK SIMMONS: Thank you, Chair Arconti. Can -- can you all hear me, okay?

REP. ARCONTI (109TH): Yup.

NICK SIMMONS: Great. Great. Well, good morning, Chair Arconti, Chair Needleman, Vice-Chairs, Winfield and Allie-Brennan, Ranking Members, Formica and Ferraro, and other esteemed Members of the Energy and Technology Committee. As Chair Arconti said, my name is Nick Simmons. I'm Director of Strategic Initiatives for -- for Governor Lamont.

REP. ARCONTI (109TH): Hey.

NICK SIMMONS: And also a policy advisor on broadband. And it is my pleasure to testify before you today regarding House Bill 6442, AN ACT CONCERNING EQUITABLE ACCESS TO BROADBAND.

In 21st century America access to high-speed and affordable broadband internet access is a right that we must afford every resident. But in Connecticut today, far too many residents lack access to this basic internet connection.

According to data gathered in 2018 by the Census Bureau, 20% of Connecticut residents lacked reliable broadband internet in their homes. And this digital divide disproportionately affected households of color. As well, 20% of white households lacked broadband internet at home. 35 and 34% of Hispanic, and African-American households lack this service.

And if anything, this FCC data, we believe, understates the severity of the problem, as it used a level of speeds to define high-speed broadband that we believe today is no longer adequate to meet the data and streaming needs of the 21st-century economy.

Just think of all of our students who are unable to learn alongside their classmates this year, because they were unable to log in at home. Think of all of our residents who were unable to keep their jobs because the internet at home was preventing them from working remotely.

Somebody might need to go on mute. Okay.

And finally, think of all those across the state who are unable to access basic healthcare services, because they were unable to log into a telehealth appointment. The COVID-19 pandemic has made it abundantly clear access to broadband internet at home can no longer be seen as a luxury for many, but a necessity for all.

Governor Lamont's solution proposed their House Bill 6442 has four fundamental goals. One, achieve universal access to broadband internet download speeds at 1 gigabit per second download, and upload of 200 megabits by 2027.

WILL GINN: Thirty seconds.

NICK SIMMONS: Two, grow the state's economy. Three, reduce broadband costs. And four, protect consumers. As I'm running out of time, I won't go into detail on each of these, but look forward to answering the questions on the panel.

But I will close by just by saying there is much work to be done to close the untenable and inequitable digital divide in our state. And we think Governor Lamont's Bill is an important step forward in this work, as it will foster an environment in which the state can work more closely. And the key is to work more closely and be collaborative with our internet providers, municipalities, schools, libraries, local businesses, healthcare providers, and so many more to ensure that all residents have the broadband access they need to thrive in Connecticut, and reach the heights of their potential.

With that, thank you. And I will now -- we can turn it over to - if this works for you Chair Arconti - Deputy Commissioner Hackett.

REP. ARCONTI (109TH): That's great. Thanks, Nick. Deputy Commissioner.

VICKI HACKETT: Good morning, Senator Needleman, Representative Arconti, Senator Formica, Representative Ferraro, and the distinguished Members of the Energy and Technology Committee. My name is Vicki Hackett. I'm the Deputy Commissioner for energy and technology at the Department of Energy and Environmental Protection.

I'm honored to be here today in this good company, advocating for the passage of House Bill 6442, a Bill proposed by the Governor that will provide critical access to broadband internet to all of Connecticut's residents and businesses.

The COVID-19 pandemic has really demonstrated the depth of the -- of the digital divide in this state, which disproportionately impacts people of color, businesses and environmental justice communities, and residents and businesses in our rural communities.

The internet is as essential to living in the modern world as electricity, heat, and water. Transparency into existing broadband infrastructure coverage and speeds will allow us to identify current shortcomings and equitably address those shortcomings while ensuring that Connecticut remains a competitive place to live and work.

In this proposed paradigm, DEEP will be the lead agency in establishing broadband internet speed metrics, and in determining which regions of the state are well-served or underserved by broadband infrastructure.

DEEP will adjust these metrics annually and develop an annual report to this Committee with policies and plans for advancement toward universal access by January 1st, 2027. This report will inform investment strategy and consumer awareness.

DEEP will also have the responsibility of appearing in proceedings at PURA on behalf of the administration to ensure that the work of OPM, DEEP and other state agencies, informs the administrative record of those proceedings, and that the outcome of those PURA proceedings informs the ongoing mapping and planning efforts.

Housing the office of telecom and broadband, but then DEEPs Bureau of Energy and Technology Policy or

BETP is a natural fit, given BETPs planning and policy development experience, and given the connection between broadband and energy.

BETP is responsible for developing the integrated resources plan, the comprehensive energy strategy. We Connecticut's electric vehicle roadmap, and we help staff the Governor's Council on climate change. All of which involve the type of research planning and public engagement that this Bill assigns to the office of telecom and broadband.

From a subject matter perspective, energy and broadband are inextricably intertwined. Not only do they share the utility poles, but reliable broadband access is necessary for people to engage with and realize the benefits of a modern, equitable electric grid, such as demand response programs, managed electric vehicle charging, energy storage programs, and more.

DEEP looks forward to playing its part in expanding the state's access to the 21st-century economy, and ensuring equitable access to critical services such as remote learning and telehealth appointments.

I also want to quickly mention DEEP support for House Bill 6572, also known as the stretch code Bill. The purpose of this Bill is to provide Connecticut's municipalities with the option to adopt a stretch building code for new and substantially renovated buildings over 40,000 feet, to be 10% more energy efficient than the state building code.

And I have with me today, Bureau Chief Mike Li, who can -- who will be here to help answer questions about that Bill, if there are any.

And finally, DEEP has submitted written testimony in support of House Bill 6571, AN ACT CONCERNING THE COMMERCIAL PROPERTY ASSESSED CLEAN ENERGY PROGRAM.

DEEP supports the expansion of the highly successful Green Bank's C-PACE Program to include installations of resilience improvements, and refueling infrastructure for zero-emission vehicles for qualified commercial real property. Thank you for your time. And I look forward to your questions.

REP. ARCONTI (109TH): Thank you, Deputy Commissioner. Scott Gaul from OPM will be next.

SCOTT GAUL: Thank you. Thank you. Thank you, Chairs, Arconti and Needleman, Vice-Chairs, Allie-Brennan and Winfield, Ranking Members, Ferraro and Formica, and the other Members of the Committee. My name is Scott Gaul. I'm the Chief Data Officer for Connecticut based at the Office of Policy and Management. And I'm grateful for the opportunity to be here today to testify in support of House Bill 6442.

And I'm going to speak specifically to the aspects about mapping the extent, and access to broadband capacity in the state. So, the Bill set forward an ambitious goal to achieve universal access by January 1st, 2027.

And I think, as you all know, in order to measure progress towards that goal, we did an up-to-date, detailed, and accurate data that's easily accessible to residents businesses and all the others that rely on access to broadband, and will also hopefully rely on access to broadband in the state. And so, I'll describe a little bit about how we're proposing to undertake the development of that data and the mapping process in the testimony here.

So Section 3 of the Bill is where the mapping process is described in some detail. OPM is proposed to play a coordinating role for that process. Our office provides coordination for data management in general for the state, and has 44 geospatial information coordinating in that front GIS data, which is really the -- what underlies the

development of maps and other similar resources. So, we're hopeful that working through OPM provides a strong basis for the mapping process and development of a robust dataset that we can rely on to measure progress towards these goals.

We believe that we need to develop statewide maps because, as of yet, the federal resources for mapping broadband capacity are not adequate to help us understand whether we're making progress and achieving the goals in this legislation.

There are variety of federal resources that are available. I think that even Nick Simmons has cited some of those in his testimony. But there are neither sufficiently detailed, granular, or up-to-date for us to rely on, on an ongoing basis. And so, most states in the country has undertaken local, statewide broadband mapping efforts, and that is exactly what we're proposing to do here in Connecticut.

We are proposing to kick that off with a planning process that'll cover six months roughly, and will allow us to reach a broad set of stakeholders so that we are fully informed before we actually embark on the mapping process. So we will plan before we act in that process, I think -- and hope can involve a wide range of different stakeholders with interests in both understanding the -- the provision of data on broadband and the actual use and access to broadband services throughout the state.

And so hopefully, that planning process will put us in a good position to develop a framework through which we can collect the data, and then present that back -- back to the residents of Connecticut.

I want to highlight a couple of things that we I think are interested in focusing on in that planning process --

WILL GINN: Thirty seconds.

SCOTT GAUL: -- that we've seen in other states - sure - other states undertake and -- in their development of a statewide broadband maps.

And two of those things are one, states that have really looked at the broadband mapping process as a way to identify areas for improvement. And so, again, as I think Nick Simmons has described in this testimony, we know that there's a digital divide that -- that disparate -- has disparate impact on particular communities in the state, and using a robust mapping process can really help to identify the areas that we need to focus on to close gaps in access by 2027.

The other avenue, I think that we believe is important --

WILL GINN: I'm sorry [crosstalk]

REP. ARCONTI (109TH): Thanks, Scott. Burt Cohen from OCC.

ATTORNEY BURT COHEN: Thank you. Good morning, Chairs, Senator Needleman, and Representative Arconti, Vice Chairs, Senator Winfield and Representative Allie-Brennan, Ranking Members, Senator Formica and Representative Ferraro, and the other Members of the Energy and Technology Committee. I'm Burt Cohen, Staff Attorney, and Broadband Policy Coordinator -- Coordinator in the Office of Consumer Counsel.

By way of background and introduction to those who don't know me, I've spent virtually all my career in the cable telecom law arena. Most of which I spent representing providers, and more recently representing municipal interests in telecom and broadband issues.

I joined the OCC on May 8th, 2020, right in the middle of the pandemic. It was thrust into the

midst of assisting many of your constituents who couldn't gain access to the internet, and consoling them, and trying to negotiate on their behalf.

I've been advising out-of-staters on our broadband capabilities, as they were deciding where to relocate from New York city during the pandemic.

I've been taking calls from municipal leaders who were struggling in your towns and cities with the uneven levels of broadband, including areas of the community that were uneven access to the barest of broadband service.

And of course, working with the Governor's staff, Nick Simmons, and Doug Casey of the Commission for Educational Technology on a solution to address in the inability of far too many students who weren't able to gain access to remote room.

The OCC strongly support Lamont's proposed act concerning equitable access to broadband. And we have submitted 13 pages testimony explaining the policy and legal aspects of the Bill. It is a comprehensive Bill that addresses the state's emergency and the longer-term broadband needs, and from our perspective, offers consumers the protection transparency that they are currently not afforded.

In September of last year, an independent report in Connecticut's digital divide was released. And as Mr. Simmons stated in detail that approximately 23% of Connecticut households lack high-speed internet at home, with low-income minority -- households and minorities fairing much worse.

Microsoft study in 2018 measured usage passage -- patterns that found that nationwide 163 million people were unable to access the internet download speeds of a mere 25 megabits per second.

WILL GINN: Thirty seconds.

ATTORNEY BURT COHEN: My good friends in the industry had been writing editorial speak -- pieces, relying on flawed FCC data, showing that 98% of our state has access to broadband. While that data is flawed, it's important to think about the human aspect of that. So even if it were accurate, it's like -- it think about it's like telling -- it's like having a serious illness, then your physician tells you is 98% curable. If you fall into the 2% category, you're really only a statistic of one, and the 98% cure rate is meaningless.

Members of the Energy and Technology Committee, it's the same with broadband. If you are unserved and fall into 2% using the industry's numbers, that connectivity rate of 98% is meaningless. Connecticut is quite the small state. Universal connectivity here is very much within reach, unlike large rural states, think, like Montana and Wyoming.

WILL GINN: I'm sorry, it's time.

ATTORNEY BURT COHEN: Okay. Am I done?

REP. ARCONTI (109TH): Yeah. Thanks Burt. Well, I'm sure you're going to get questions from the Committee.

ATTORNEY BURT COHEN: Thank you.

REP. ARCONTI (109TH): -- your points. Doug Casey. And for the Committee Members, Doug is our last panelist. So if you'd like to get some questions in, please start raising your hands on the participation feature, and we'll -- I'll be able to call you in.

DOUG CASEY: Everybody -- one person at least has to be on mute when they first -- first start talking. So, good morning, Senator Needleman, Senator -- Representative Arconti, Senator Winfield, Representative Allie-Brennan, distinguished Members

of the Energy and Technology Committee. My name is Doug Casey, and I serve as the Executive Director for Connecticut's Commission for Educational Technology.

Thank you for the opportunity to offer our support for House Bill 6442. As quick background, the Commission for Educational Technology is empowered by general statute to serve as the principal education technology policy advisor for the state. We oversee the state's five-year strategic plan, which addresses directly broadband concerns for teaching and learning.

The Bill will help address inequities in our state, pertaining to education. In general citizenry. I can speak to these matters, given the commission's work over the past few years and addressing what FCC Chair and West Hartford native, Jessica Rosenworcel has termed the *homework gap*, ensuring the students have access to broadband outside of school for learning.

This year, I led the home internet efforts of Governor Lamont's Everybody Learns initiative. Through that work, we identified several impediments, directly to connecting students for learning outside of school that House Bill 6442 will address.

First, the Bill calls for universal availability of broadband in our state. Section 5 specifically calls for "access to broadband internet for -- at all times for educational and learning purposes."

Every -- at this point, every public school student who needs a computer has one, and they're using educational software for research for social-emotional learning, for project-based work, and personalized learning. But without access to the internet for all learners to make every -- every home online, our state will continue to disenfranchise the students who simply by virtue of

their home address, can't fully participate in learning because they don't have broadband available.

I personally spoke with parents and grandparents begging me to do something about the lack of connectivity for their homes and neighborhoods, how their sons and daughters are slipping behind their peers, because all they have is slow cellular service or no connectivity at all.

The other challenge that house Bill 50 -- 6442 addresses is a need for accurate mapping. As my colleagues have said, "If you can't measure a problem, you can't solve it." And so, we need that mapping.

I would also wanted to add before closing is that, the full commission asked for and unanimously approved statement of endorsement of the Bill saying that -- that it supports the intent of the act.

So in closing, I would just say, you know, given -- given all of these factors and the need to support teaching and learning for students long after COVID is over. The commission supports the Bill. And I will cede any time remaining, and welcome any -- any questions.

REP. ARCONTI (109TH): Okay. Thanks, everybody. Thanks, panelists. I'm going to kick it over to Representative Horn first. Representative Horn.

REP. HORN (64TH): Thank you, Mr. Chair. I'm trying to figure out which Committee I'm speaking in. I know we're all doing the same thing as we -- as we juggle to multiple screens at the same time. So, as usual, I begin this with a caveat that I'm sorry if I missed some of these comments.

But so I -- I have questions -- I definitely -- I applaud the 6442, and because I represent one of those districts that is pretty significantly

underserved and, in many cases, unserved. And so, there are a lot of aspects of it, including the mapping aspect has been just noted. That is really important for us because the federal efforts to do so are Deeply flawed.

So, I guess first as a -- as an overall question -- I had a question for Attorney Cohen about just the overall commentary that -- that -- that this Bill is inconsistent with federal law. And I wondered whether -- I'm sure you've heard those arguments, and I wonder whether you could comment on that.

ATTORNEY BURT COHEN: Sure. I'm happy to do that. Thank you, Representative Horn. That is an issue that is typically raised by the providers. Our office has reviewed this as a vie with other attorneys at the Governor's Office. And it is the unanimous consensus as the Bill does not conflict with federal law.

Must of the -- most of the Bills changes to Title 16 of the general statutes, involve statute sorority applicable to the broadband providers and their capacities as cable or telecommunications providers.

By including broadband, we ensure that these safety-related statutes apply no matter what services are provided on facilities that are permanently located in the public streets and highways in the state of Connecticut.

The Bill correctly recognizes those facilities remain subject to the jurisdiction regardless of whether those facilities provide, in whole or in part, broadband services.

As for federal jurisdiction questions, a lot of the opposition to the Bill kind of hearkens back to a view of federal law that really is not current with what is going on in the courts these days.

So for instance, when the -- the Republican administration FCC in 2018 repealed the net neutrality regulation that the Obama administration had put in place. That was appealed, and that was while the FCC's repeal of net neutrality was upheld. The FCC's transparency rule regarding broad being service providers to disclose accurate information regarding their network managing practices to performance in commercial terms was not arbitrary. So the consumer notice requirements in the Bill are all consistent with the FCC'S transparency rule.

Further, the court concluded the FCC could not pre preempt the entire field of broadband. It's called field preemption. Just by saying broadband doesn't mean that states do not have authority. Instead, the court ruled that the FCC could not pre -- could only preempt state laws and action that directly conflicted with existing federal statutes called conflict preemption.

And based on our review, and all the legal review of this Bill, none of the provisions in the Bill do conflict with any existing federal statutes.

Moreover, in late February, a federal court applied this Mizoa decision in denying request for a preliminary injunction from the cable and telecommunications providers against the State of California's net neutrality war. And that was a case in which the Connecticut attorney general represented our state interests in an Amicus brief. So based on that, they've lost.

The State of California also is doing resiliency infrastructure for all service providers, including broadband. And similarly, the cable and internet industries lost the privacy -- privacy preemption case, at least, on preliminary injunction basis in May in last summer, that case will be going to trial in late August.

But the gist of what I'm telling -- what I'm stating is that the law is evolving. The idea that the federal government can say, we are not going to regulate broadband, but leave the state's power was to protect consumers, to ensure the safety of consumers and -- and -- and employees of the companies from [inaudible] and the public rights away. The trend is all in favor of the states right now.

So respectfully, thank you for the question, Representative Horn. I hope I -- probably gave you more information than you were hoping for, I hope that.

REP. HORN (64TH): Thank you. No, thank you, Attorney Cohen. I -- it's clear you've thought about the issue, which is important. Obviously, if we're going to act in this sector, we need to have -- have that architecture around our actions.

And I have two other quick questions if that's okay with the Chair. One is, with respect to mapping and -- and there has been much criticism of the -- the federal efforts to map, you know, under-service or on lack-of-service broadband access, because of its basis on, you know, census tracks, which assume that if there's one home served, then everybody's served.

And I wondered if -- if anyone could comment on how the state would go about it in a way that would be different? Well, how that process would look?

ATTORNEY BURT COHEN: I would turn that over to --

SCOTT GAUL: I'm happy to cover --

ATTORNEY BURT COHEN: Yeah. Scott. Thanks, Scott.

SCOTT GAUL: Thanks. I'm happy to cover this with the sort of caveat that the way that it's proposed in the legislation is that we kick off the mapping again with a planning process. And so what we want

to do is, you know, engage a fairly broad set of stakeholders, learn from what others have done, hear about the pitfalls, and efforts that have been undertaken in the other states, and then use that to build a basis for it.

So I don't want to presuppose what we would do in Connecticut, but I can tell you some of what they've done in other states, that I think is instructive and that we could learn from.

So, a couple of things that they've done are seek to collect data in a more detailed fashion. So I think as you highlighted the -- the current federal FCC reporting and possibly the proposed changes to the FCC reporting is -- is not necessarily granular enough in terms of, you know, measuring the extent of broadband infrastructure.

So, some states have undertaken more detailed data collection from the providers in a largely voluntary fashion, that I think, you know, has been worked out well with -- with industry.

I think Georgia is particularly helpful, is probably the most robust example where they've taken address-level data collection. So, each individual address in the state they've collected it at that level of detail, they aggregate it to preserve privacy and confidentiality so that it's not disclosed at that level, but they collect very detailed data on the extent of broadband infrastructure. So that's one thing that we can, I think, learn from other states how they've done that.

Something that we've seen in other states that I also think is instructive and useful to look at for Connecticut, is ways in which they've provided sort of a check on that, or ground true thing, or sort of getting like the boots on the ground perspective, to make sure that what is reported from the industry -- infrastructure matches the reality of what

residents, consumers, businesses, et cetera, experience.

And so there's a variety of ways that they've done that through, sort of, crowdsourcing or consumer reporting. So that -- I think that State of Maine has like a statewide speed tests that they're running, so everybody in Maine is -- they're asking them to, you know, check their connection speed.

There's a few other states that have done consumer surveys to allow people to report, you know, are areas, you know, not matching the reported speeds and -- and the reporting from the infrastructure side of things. So there's other ways where you're getting that sort of a check and balance through both, getting a report on the infrastructure and then some confirmation of that from the resident and consumer side.

So again, I don't want to presuppose exactly what we would do, but that's, I think what we've seen in other states that, I think, provides both more granularity on the infrastructure and the ability to really hear from, you know, the users of broadband, what their experience of it is. I don't know if that fully answers your question.

REP. HORN (64TH): No. Thank you. And I know it's a process, but I -- I appreciate that. I have, you know, broadband committees in nearly every one of the nine towns that I represent, and some of them are engaging in that kind of process. And so, be happy to talk further with you down the line about -- about their experiences and how they gathered that data, and whether it's useful to you as you -- you undergo that.

And so, thank you for that. So my last question is about the one-touch make-ready provision in the -- in the proposed Bill. And -- and there's some dispute amongst some of the advocates that I've spoken to about -- the language quite clearly would

empower an incumbent to make use of the one-touch make-ready process for, you know, getting wires up on poles. But -- but would it allow a municipality also to make use of that procedure? Does it empower a municipality that might be working in partnership with an incumbent or, you know, in some other fashion to -- to make use of that process as well?

NICK SIMMONS: I think Burt. You're probably -- I'm certainly can speak about the -- all the benefits that we think one-touch make-ready are going to provide the state. But Burt, I think on that one sort of language clarification, love to hear your thoughts.

ATTORNEY BURT COHEN: I'm sorry, Representative Horn. Can you just focus on me again on what that -- what your point was?

REP. HORN (64TH): That -- that's no problem. I am certainly -- my brain is split in at least two pieces today. So, I was asking about the -- the one-touch make-ready provision, particularly that it -- the language quite clearly empowers the incumbents to make use of that process. Does it also -- would it also empower a municipality that's trying to do the same thing to make use of that process?

ATTORNEY BURT COHEN: Oh, I thought -- I thought it would -- I thought you -- it had drilled down more. No, absolutely. In -- I see no reason why municipalities who would be interested in using the municipal gain pursuant to state statute would not be covered by the one-touch make-ready.

I'll go back and look at that -- the statute -- the post section again, to see if it needs clarification before finalizing. But certainly if a -- if a municipality or even the DOT has reason to use the gain pursuant to statute, it makes seem self-evident almost that the one-touch make-ready, as well as the dig-once provisions of the infrastructure section of

the Bill - which is Section 20, just for everybody's reference - would not apply to the municipal broadband or municipal use or for DOT, for that matter.

REP. HORN (64TH): Thank you. That's helpful. And again, thank you for your work on this issue, which is certainly important to many in the state. And I look for -- I know there's lots of conversations ahead, and I look forward to hearing the rest of the conversation. Thank you, Mr. Chair.

REP. ARCONTI (109TH): Representative, before I jump to the next -- while we're on one-touch make-ready, just a quick question. I guess I'll aim it at Burt. Mr. Cohen, can you speak to the communication workers of America is concerned on the one-touch make-ready proposals, and -- and their concerns, you know, this, you know, if done incorrectly is could be a public safety issue.

ATTORNEY BURT COHEN: I -- usually I defer these questions to -- to Nick Simmons, but I'll take a stab at it, Representative.

REP. ARCONTI (109TH): Nick, can address it if you'd like it. You can defer -- do like --

NICK SIMMONS: Yeah, sure. I'm -- I'm -- I'm happy to jump in. So the -- one of the reasons we included one-touch make-ready in the Bill was to address one of the sort of, common issues that we face in Connecticut. Which is, right now, we rank as one of the most expensive and time-intensive states in the country for telecommunications installation process. You know, we rank literally almost right at the bottom. So it takes longer and costs more to install telecommunications infrastructure in Connecticut than any other state in the country.

And so back to the original comments on -- on equity, you know, we know that installation and fast

and rapid deployment, especially, as technology becomes -- develops faster and faster we're going to need to continue to install and install. If we're going to achieve that universal access goal, we need to reduce the cost, and we need to reduce the time it takes to -- to install.

One-touch make-ready, I can say is -- is a policy that is advocated sort of all across the country by -- by groups who look to -- who are looking to expand access and -- and do so quickly. San Antonio, Texas has adopted this; Louisville, Kentucky, and Nashville, Tennessee. And -- and all it -- all it simply is -- is a way to just reduce the time by streamlining the process.

And one could argue, in such a streamlined engineering process, it might even improve the safety of the overall process. But that -- those are the intended goals of the policy.

REP. ARCONTI (109TH): Okay. And just on Section 15 -- kind of a random section, but I just want to get this question out there. It requires -- you know, the broadband internet service providers shall restore broadband internet access to customers within 24 hours after restoration of electrical service, following an electrical outage. So, essentially though, right, that requires -- it's going to require -- maybe Deputy Commissioner Hackett can jump in, cause it's my favorite utility, an Eversource question.

It requires us being comfortable with Eversource being able to communicate with the internet service providers that the poles are safe for their alignment, for the telecom alignment to be able to go up and then make these repairs to return internet access.

Given the recent history with Eversource and their inability to communicate properly, and the investigation going on right now at PURA, I'm just a

little concerned putting so much on the broadband internet service providers to restore power. This could be based on another utility's involvement.

VICKI HACKETT: Totally understand that concern. And certainly, I think we saw some of that with tropical storm Isaias, you know, as far as a lack of -- or you know, not -- not necessarily thorough communication with broadband service providers after -- after restoration of service.

So, I think that the important thing here will -- you know, and certainly would be happy to work with the Committee as per usual, would be to ensure that -- that -- that if it was not their fault that they didn't comply with that provision that -- you know, that they then wouldn't be held accountable to that provision.

You know, I think that it -- that's the type of thing that -- that could potentially be dealt with in the performance-based rate-making approach with the electric utilities to ensure that they are having those communications in a timely manner.

And I think, you know, the place to address that is -- is with the electric utilities and, you know, make sure they have those -- those communications channels working well. And, you know, as long as those communication channels are working well, then I would expect the broadband providers to, you know, be held responsible.

REP. ARCONTI (109TH): Thanks. Thanks, Deputy Commissioner. One more quick question. I guess, I'll direct it at Nick. And then I'll kick it over to Representative Cheeseman, and then Representative Steinberg. So we're directing a whole lot of build-out, right? I'll just -- you know, in -- in this piece of legislation. It's my understanding that PURA does not have the ability to regulate rates, though. So are we concerned -- the office concerned

on an adverse impact on rates since we can't control that part of the process from my understanding?

NICK SIMMONS: Yeah. Yeah, no, It -- it's an important question, right? It goes back to the original question for cost. So the state per the Telecommunications Act and -- and laws of the FCC is -- is prohibited from regulating rates, just like we could with electricity utilities. So on that end, our hands are tied until the federal government should choose to change those laws, and it's even -- we're getting word that Senator Markey in the Senate is introducing a Bill on that. But -- but so at the state level, there -- there can be no rate regulation.

So I think your question is a good one, Chair Arconti. Which has been okay, then if we require more building, how do we -- how do we contain costs, right? How do we make sure this isn't drastically expanding or increasing prices for -- for consumers?

And so, you know, I go back to -- to various measures we are -- we are taking, and we're considering in the formulation of this Bill to do -- to do exactly that. I don't know if it's time to kick off the first broadband joke during the -- during the -- during the Committee era. I'm sure there'll be many as we all have our tech troubles.

But -- but, but so the first, Rep Arconti, are things like one-touch make-ready, which can drastically reduce installation costs, in addition to a streamlined permitting process, which we have in this Bill.

We also kept our eyes very closely on what we're hearing from DC. And we -- our build-out provision has a deadline of September 2022. And we also know that over -- over the next year -- there was a first internet stimulus package that came in the December stimulus from -- from DC, which provides a very generous stipend to -- to eligible families across

the state. There was also in the, in our new Bill, most likely \$7 billion dollars coming to help invest in infrastructure, across schools and libraries.

The Governor, through his Everybody, Learns initiative, has given out vouchers to families, to students who are learning. And, you know, I imagine there might be other sources that would help ease the blow for these new build-outs.

But what we do know is that only 2% of the state right now, according to our estimation, doesn't have the actual infrastructure, right? The families are still not able to get online -- online for a variety of reasons.

But the physical footprint, I mean, we -- we need to give our internet service providers credit. They have built out the state almost better than any other in the country. But what we're trying to do with this Bill is just close the last remaining gaps, this last 2 to 3 percent, which by all estimates should not be very expensive and can contain those cost rises on -- on -- on our families.

REP. ARCONTI (109TH): Okay, thanks. I'm going to turn it over to Representative Cheeseman.

REP. CHEESEMAN (37TH): Thank you, Chair Arconti. And I even remember to unmute myself, and lower my hand. Thanks so much. So my first questions are for Mr. Simmons. And you've just cited that, you know, the broadband providers have done a great job in the build-out. There's only 2% that we have to cover. Can you reconcile that with that questionnaire you cited that said 35% of families don't have broadband access? So is this a question of affordability of having appropriate devices where it -- because there seems to be a real disconnect here?

NICK SIMMONS: Yeah. Thank you. Thank you so much. It's a great, great point. And -- and there -- that was something we puzzled over as a team for a long time. So where -- where are the gaps? And we think about it as there's an infrastructure gaps, and then there are adoption gaps. And so, what are causing those adoption gaps?

So, I think the first I'd say is the data was collected in 2018 before the pandemic, which really made, if you could get broadband, it was a must-have during the pandemic. So, we would anticipate that those numbers came down.

But what are the other drivers of -- of the gaps? So there is an affordability question. We believe there is information asymmetry between the consumers and what's available to them. We believe that without proper maps, anecdotally, what we hear are, "Oh yeah, the city of New Haven or Hartford, or -- is covered, but turns out that one block downtown actually had an outage and nobody knew about it. And so all the housing complex is there, or don't have access." Or, you know, "One enormous comp -- housing complex, the building wasn't maintained properly, so the landlord never fixed the wire."

And then there's this affordability piece which -- which we try to address all of these in the Bill. And so, we think this is -- you know, during the pandemic, we've launched a huge partnership with our internet service providers. We launched a four-month marketing campaign in multilanguage -- multilingual targeting families just to know about their options. We, you know, we launched public law -- Governor Lamont, invested in public Wi-Fi in downtown centers. And, you know, we partnered with our internet service providers on more affordable options.

So I think our Bill, in general, does many things to try to foster an environment where we can build that

infrastructure and close those last adoption gap issues.

REP. CHEESEMAN (37TH): So if I'm understanding you correctly, one, the internet service providers have been willing and able partners, particularly during the pandemic at bridging those gaps, helping to address affordability. I know most of the providers have low-cost programs.

And you said building a new Haven where the landlord had not maintained it properly. Surely that's not an issue for the broadband providers. That's a very specific, you know, to that location. So it -- it seems to me by concentrating on the -- you know, the 2% as opposed to that real adoption issue, we appeared, you know, to be conflating two things that are not necessarily equivalent. Because adoption is a very different question from the build-out. And I know in Representative Horn's, part of the state -- yes, there are real issues. You may have 10 miles to a house or something like that.

I would be interested if you could share with the Committee, or certainly, with me, that census questionnaire that cited that 35% gap?

And I'd like also -- you know, we recently passed the data center Bill to attract this industry to our state. And one of the key selling points was Connecticut's incredible high-speed fiber-optic network. So again, you know, and I believe a lot of that is due to the Nutmeg Network that was built out by the state. And where do you see that existing network and our internet service providers working together to provide this access to our residents?

NICK SIMMONS: Great. Great question. So I guess I would address the -- the first one on -- on the potential for us to be conflating issues. I think -- I think that's exactly right. We -- that could -- that could be the problem. And in the beginning, we've been looking at this for a long time since,

since the pandemic. And earlier, you know, that was the initial -- basic confusion or potential conflation of the issues.

And which I -- which is why this Bill has numerous, numerous, numerous, numerous sections that we try to get at each of the little problems. It's really a bunch of drivers happening all at once. And the requirement on the build-out is just one small section of a Bill that has many, many other aspects that are targeted, not just that ISP is, but homeowners, municipalities, you know, pole owners you know, you name it. And -- and we're just putting PURA in a position to be able to address a lot of those little issues. But those little issues compound, and they add up to 20%.

To your second question about CEN. Great -- another great point. We do have one of the nation's best state-owned and state-sponsored fiber networks, the Connecticut Education Network or the Nutmeg Network, which has been around for a long time. Governor Lamont was actually in his private-sector career involved in help -- in helping build that out.

It is intended primarily, and by statute, for the installation and provision of broadband for libraries and -- and schools, higher ed through -- through K-12. And so, that is what the -- the sort of intended purpose of CEN is. And they also serve a bunch of other public sites such as, you know, the XL Center in Hartford or -- or city halls across the state.

So we -- Governor Lamont's everybody learns initiative over the summer we actually invested \$1.7 million dollars in those CEN sites to emit Wi-Fi into downtown centers. So, the public at large outside the buildings could -- could leverage that infrastructure.

And -- and one of the things that Bill is doing is building internal state personnel to be able to work

with CEN and providers and municipalities and businesses to continue to think about how we can better leverage CEN, because to your point, it's a great resource.

REP. CHEESEMAN (37TH): Okay. And I have tons more questions, but I know everybody else has. Quick question for Attorney Cohen. You stated the FCC study was deeply flawed. I'm interested in that. And also -- and again, if -- if people can get back to me where necessary, I think DEEP to develop those metrics in terms of speeds. And I'd love to know in more detail, how are you going to sort out what's, you know, appropriate less than -- so I -- I'd like to get a bit more granular on that. But I don't want to take up everybody's time. But yeah, if Attorney Cohen could address why he felt the FCC study was deeply flawed?

ATTORNEY BURT COHEN: The FCC -- just to clarify Representative Cheeseman, the -- the FCC's data that was used for mapping, and for mapping I've been -- I'm going to pass it over to Scott Gaul to respond to that cause he's more familiar with that. Thank you.

SCOTT GAUL: Sure. So thanks, Representative Cheeseman, for the question. I think to -- stepping back, the -- the flaw in the current FCC data -- which they are proposing to revise, but the flaw in the current data is that it reports access for what is essentially a neighborhood. So it's the census block group, which is, you know, a few hundred -- few thousand people. And so, if anyone person in that neighborhood essentially reports that they have access, it reports that there's coverage for the entirety of the block group.

And so, I think -- Attorney Cohen, I think, was careful in his remarks earlier, the 2% is reflecting coverage measured in that way, so if anybody in that neighborhood has access, everybody's reported as having some level of access. And so, that 2% are

people that fall entirely outside of those areas. And so, it is probably, in all, certainly almost certainly the case that there are people in the other 98% of the state that don't have access. They're just in proximity to somebody who does have access, because it's measured for like a fairly large area that I think you can think of as a akin to a neighborhood. And so --

REP. CHEESEMAN (37TH): [crosstalk] Yeah, getting back to that point. They don't have access. They may have opted not to have access. That may be the adoption issue. It doesn't mean it's not available to them if they're in the neighborhood, you know. I mean, I know in my part of the state where we originally had only one possible service provider, I now have three from which to choose. And I can put my, you know, address down to my house number in, and it will tell me what providers are available. So again, and getting back to my point, to Mr. Simmons, you know, are we conflating access with adoption?

SCOTT GAUL: I would -- one thing to add, I think, for the mapping. And I think this is why the approach other states have taken as sort of a two-pronged approach. So the FCC approach, it's not reflecting whether people did not adopt. So it's reflecting the actual extent of the infrastructure in the state, not whether people are using that infrastructure. It's basically if there's wires or cables laid. It's not whether people are using it.

The census data, that I think you had asked earlier, is collected from people. So that's a reflection of like, whether people are choosing to, you know, access or use it, which could include affordability issues, it could include if your router is bad, other issues. So it is mixing some of that -- that information together.

But it's fundamentally, a lot of states have taken this two-pronged approach where they're collecting

data on the infrastructure, and the utilization of that infrastructure by the residents. And I think that's what we'd be looking at so that you're getting both sides of that story. But the FCC data is really the infrastructure.

REP. CHEESEMAN (37TH): And I -- I will agree that knowing the extent to which people have adopted and addressing those information gaps, affordability, gaps, all those things is very important. But I think that that is where this Bill should be concentrating as opposed to necessarily, you know, the role of the ISPs and building at that 2%. But anyway, thank you so much for your time. Thank you for your indulgence, Chair Arconti

REP. ARCONTI (109TH): Thank you, Representative. Quick question for Nick. Then we're going to turn it over to Representative Steinberg, then Representative Ackert.

You know, I could be wrong in my -- in my reading. But as I read throughout the whole Bill, it seems to also apply to wireless carriers. So I guess, is that the intent of the draft to do that? Or am I not reading it correctly?

NICK SIMMONS: And do you mean, Chair Arconti, sort of as opposed to cellular providers?

REP. ARCONTI (109TH): Yeah.

NICK SIMMONS: Yeah. Yeah. I know, it's a good question. It is, mostly, in this state the broadband internet providers or almost all internet service providers. We do, you know, in the -- the pole attachment sections of the Bill would apply more to -- to the -- to the cellular industry.

You know, one of the reasons is -- is because right now where we are with technology that the broadband wired internet access, just wherever we are today, we believe is going to be the most reliable for that

-- for that family, both in terms of speed access and because of just the -- the way the infrastructure works, right? It's not cell tower-based. It's just -- it's just, you know, in the -- in the ground into the home.

That is, you know, a 2021 comment. We could certainly, I could see us coming back here in four years and that being totally different as 5g progresses and -- and other cellular technology, or even satellite technology. We -- we know Elon Musk is offering a satellite broadband or internet option.

But -- but for now, this Bill is -- is you know, intended to sort of all things to hit that goal of one gig download speeds by 2027, and just strategically, it's -- it's our ISPs that -- that are going to be our great partners in getting that done.

REP. ARCONTI (109TH): Okay. Thanks. Thanks, Nick. Representative Steinberg, followed by Representative Ackert, and then Senator Haskell.

REP. STEINBERG (136TH): Thank you, Mr. Chair. My first question is for Mr. Simmons. I want to thank you for testifying on this Bill today. You've heard some testimony -- well, some -- some questions with regard to, are we putting too much focus on the 2% though? I believe everybody should have internet access.

My question for you. It's not really in this Bill, but it seems to be perhaps a larger issue when it comes to both the internet and wireless, is reliability and resilience. We can achieve full coverage, but if we still remain so vulnerable every time there's a storm, you know, it'd be great if all the cables are underground, but most of them are actually still on poles. Why do we, if anything, going to be doing about that?

You know, we've -- we've heard from people in Zoom meetings that they have very spotty service, even without a major storm. If we're really going to, be effective as a state and -- and grow our economy, shouldn't we be putting a lot more focus on the resilience and reliability piece of the equation?

NICK SIMMONS: Thank you very much, Representative Steinberg, for the question. I would -- I think this is a great question for Deputy Commissioner Hackett to -- to answer, as there's a lot of sections in here on what PURA will be doing on in terms of outages, and -- and other issues that you mentioned.

I would just add quickly. I think it's a great point reliability, and something we haven't discussed yet, is also -- you know, reliability also depends on -- on the speeds. And when we say 2% of the state isn't uncovered, many -- a lot of that coverage is at a speed that's much lower than one gig download. I mean, some of it's just at 25 megabits download or -- or 50 megabits download.

And so again, it's hard to put the cart before the horse, because this is why we need better maps. But it could end up being only 60% of the state has access to anything above 100 megabits, which is already starting to become obsolete. So that is one of the reasons why we are focusing on the infrastructure piece to meet this goal of 2027. But on the reliability piece, I think Deputy Commissioner Hackett would be able to speak best to that.

REP. STEINBERG (136TH): Well, thank you for the reference. And, with the Chair's indulgence, I will transfer my question to Deputy Commissioner Hackett. If you wouldn't mind giving us your comments on my concerns.

VICKI HACKETT: Yes. Thank you for that -- that question Representative Steinberg. And I think, you

know, we all had recent experience with this -- with tropical storm Isaias, right? And I found, personally, it was harder for me to be without internet access than to be without electricity in August. So, and -- and I'm guessing I may not have been alone there.

I think, you know, this is also an excellent question to ask Chair Gillette when -- when she gets up to testify. But I would say that this is a really good way to talk about the intersection between broadband and energy, right? We're talking about the same poles, the same conduits, the same trenching, the same, you know. So -- so when we talk about resilience, it's -- it's really both broadband and energy together.

And getting back to Chair -- to -- to Representative Arconti's earlier question about the requirements in the Bill for providers to restore service within 24 hours of when the electric distribution companies restore service.

I think it's making sure that we get them working as we discussed earlier and lockstep on that restoration of service so that it -- so that it can happen, you know, more quickly, and make sure that those communications are there.

And of course, you know, while we're -- PURA has that one in particular docket, and their good docket focused on resilience. But resilience is really a theme running through all of the work that's happening there. And I think as we work through that, you know, we really need to consider how broadband is impacted as well. And I think broadband will benefit from some of the work happening with the electric grid. Right?

And I also want to second the comments about speeds and how the 2% gap doesn't include looking at the speed that people have. And that's why that role of defining what adequate speeds are, is -- is so

essential to making sure that we actually have broadband coverage. Because if you -- if you have broadband coverage, but it doesn't allow you to do the things that you need to do for work or to educate your children or engage in the -- just the modern world, then it's not really -- it's not coverage. So -- so I think that's a big part of it as well, is making sure that the coverage is actually adequate. I hope that answers the question.

REP. STEINBERG (136TH): Yeah. It really does. And I think everybody would agree that our expectations for speed and access are different than there were from a year ago. And if we're going to see some permanent changes to particularly use in the home, we're going to have to maybe even up our game in terms of our expectations about what speed really needs to be, you know, what's the basic right for speed.

So I thank both of you for that. I had one more question for Deputy Commissioner Hackett. I've been a big fan of the work you've been doing on energy efficiency. I was very pleased to see the stretch codes, Bill. But in reading testimony, I've seen one person suggest -- this actually would frustrate multifamily housing, and our desire for diversity communities like mine, might adopt stretch codes to be more exclusionary. And it never occurred to me that this would be a problem.

And obviously, our desire is to encourage both housing diversity, but also do -- do what we can for our aging housing stock and -- and build better going forward. Would you choose to comment about that?

VICKI HACKETT: Absolutely. I think that is really an important question. When we're considering the adoption of stretch codes, and one that we -- we dug into a bit. And I have Mike Li with us, our Bureau Chief from BETP, who is a little bit more dug in on

this one. But my understanding is that, when we are building affordable housing, many of the requirements that we have in-state would actually mirror what's already in the stretch code, but I would turn it over to Mike Li to talk more about that.

MICHEAL LI: Yeah, that's correct. Representative Steinberg, we had this conversation with department of housing a couple of weeks ago when other stakeholders brought up this issue. And department of housing clarified that they already require that housing that gets the low-income housing tax credit is 10% better than this building code. And so, it wouldn't affect state-financed public housing through -- that receives a low-income housing tax credit.

REP. STEINBERG (136TH): Thank you for that. There was some concern that since most multi-family developers do not access CHFA funding, that they may be at a disadvantage. But you're saying that the 10% would at least equalize any differential?

MICHEAL LI: Yup. Correct.

REP. STEINBERG (136TH): Thank you for answering my question. I'm sorry, go ahead.

VICKI HACKETT: Oh yeah. I just would also offer, that we have the conservation and load management plans, right? That would also provide assistance to, you know, landlords who are, you know, maybe expanding and therefore have to meet a higher code. It -- and it wouldn't apply to existing structures. It's just if you were to be building a structure or if you were to be doing a substantial renovation to a structure, right? So that's when you would have to apply the new building code. And our programs offer, you know, a variety of incentives that would help those landlords.

And the other side of it is that once you make those buildings, more energy-efficient, tenants can afford the energy builds more, right? Which means that tenants stability in -- in the rental property will -- will be higher. And you know, less likelihood that they'll end up in a position where they're having to face eviction. So

REP. STEINBERG (136TH): Thank you for that, Deputy Commissioner. And I agree that this is critical for new constructions. But I -- I also think we need to put more incentives on the table for existing construction and retrofits. I know that there are a number of Bills out there right now that are seeking funding to make sure that we can incentivize upgrading multifamily housing, as much as we can, new construction. So we appreciate your help on that. Thank you, Mr. Chair.

REP. ARCONTI (109TH): Thanks, Representative. And Deputy Commissioner, the stretch code, it's voluntary for adoption, correct? For the municipality?

VICKI HACKETT: It's voluntary for a municipality to adopt it. And if a municipality adopts it, then it's mandatory for compliance within that municipality.

REP. ARCONTI (109TH): Yeah. Thanks. Thanks for that clarification. You know, just -- you know, just one point, I know Massachusetts adopted, you know, stretch codes in the same way we're attempting to here today, back in '09. And since then, over 200 towns have voluntary adopt -- have adopted it. It seemed to have really taken root in Massachusetts. As a point of reference for Committee Members.

VICKI HACKETT: Yeah, 286 towns have voluntarily adopted it in Massachusetts. In New York, municipalities can choose to adopt the New York stretch energy code as well. And that's designed

similarly to save 10 to 12 percent in energy costs compared to the base code. And an analysis of the New York energy code found that for a large office building, the incremental first cost is \$0.31 per square foot with a simple payback from energy savings of 3.27 years.

There's also several other jurisdictions, including Maine, Vermont, DC, Maryland, that have some version of a stretch code in additional states, are currently considering adoption as well.

REP. ARCONTI (109TH): Thanks, Deputy. All right. So Representative Ackert, then Senator Haskell, then Representative Arora.

REP. ACKERT (8TH): Right. Thank you. And in perfect segue. That's exactly the question I was going to ask. It was about the stretch code. So, my question is, I'm looking at the line and says, "So as any building 40,000 square feet." Is that correct? Any type building commercials, residential over 40,000 square feet that's under this voluntary adoption.

VICKI HACKETT: Yes, that's correct.

REP. ACKERT (8TH): Okay. So we just passed a very -- a Bill out of the -- out of the chamber the other day that dealt with data centers. And data centers are -- are not green in terms of green for the -- the energy usage, it's very, very high. And, you know, so that would be something that a community that was thinking about adopting them, if they're looking at incentivizing a business to come in. That there's a couple of businesses that were -- that we've been working with recently, those are grow -- grow factories for marijuana administered for medical uses; very, very high energy uses. And -- and if we look to actually continue that and go to recreational, but also the data centers, there's still a couple that we would probably want to keep in mind.

VICKI HACKETT: Yeah.

REP. ACKERT (8TH): I could not find on the state building code, the base energy use. Where's that - where would I find that? And that might be something for Mr. Li.

VICKI HACKETT: Yeah. And I'm happy to follow -- you know, I'll turn that one over to Mr. Li. But if we can't answer that today, we're happy to follow up on that.

But, I would also point out that, what we're doing, would it prevent high energy use industries from operating or coming to Connecticut at all? It would just require a 10% incremental increase in what they would have had to already do to -- to save on the energy that they do use. Right? So I don't think it's inconsistent with the data center Bill, but we're happy to think more about that and -- and -- and engage more with -- with the Committee about that.

So, you know, it wouldn't -- it certainly wouldn't prevent those industries from operating or coming to Connecticut, but it's just for -- for all buildings outside, you know, making sure that they are doing, you know, more than what's in the -- in the -- required in the base code. And Mike, do you want to take the rest of that question?

MICHEAL LI: Yeah, I think we'll probably have to follow up with you to get the specifics of your question. But the short answer, which might not answer your question is that, the state uses the 2015 International Energy Conservation Code as the reference for what is required in terms of energy in the building code.

REP. ACKERT (8TH): Thank you. I can access that code. I -- I teach the Continuing Ed for electricians and we teach that energy conservation

code, so I can access, but maybe the Committee might be interested in that also.

Just going off, you know, because -- that's all I was concerned about is that, finding the base and then understanding, "Yes, the intent is to reduce 10%, but we don't want unintended consequences. Okay. Commercial building was fitted out, but now we find that this building is empty, we want to bring in a high energy use thing." And well, this -- this community that doesn't allow it, even though that, we're talking about broadband, ITT has high access to the energy, electricity, and broadband, but this community decided to go with these laws. There's no unintended consequences. So thank you for your answers and your -- and the follow-up on that. That was very interesting.

And then, just a follow-up to Rep. Horn's comment about what's going on in her communities. I think we've talked about the mapping for the broadband. You know, I'd almost say, is communication is going to be open to like the Connecticut Council of Municipalities?

And sorry about the phone. I've figured is, the only time that phone rings is probably car warranty, I'm sure, calling.

But -- so, is there any communication in regarding working with the communities like Rep. Horn's that has, she said, nine of us have this broadband committee that they're working with on the mapping.

NICK SIMMONS: Scott? Yeah.

REP. ACKERT (8TH): Yes, that'd be nice.

SCOTT GAUL: I --

REP. ACKERT (8TH): So they are. So they're working with the communities, so we're not -- you know, if -- if you know, as I mentioned, so Nick, that might

be a question for you, or maybe that was your answer, "Yes." But, what type of work as -- you know, Rep's got nine. She's got, you know, more than, you know, almost 10% of the town's right under her, already has the community. We've got 10% done just from Rep. Horn's district. Anyway, hopefully, that's -- hopefully, that's what we're doing.

SCOTT GAUL: I'll add. I think -- I think the way the process is -- is proposed in the legislation is that, I think obviously we kick off after the legislation is passed, which hopefully some version of will be. And then, I think it would hopefully be a very open process, and bringing in folks from municipalities or from groups like CCM who have thought about, or worked on this, is a wonderful idea that we should be very well positioned to do. I think particularly, if there's local efforts that have already happened and people have lessons learned, I believe, should learn those lessons at those state level as well.

REP. ACKERT (8TH): Thank you, Mr. Gaul. Thank you, Mr. Chair.

REP. ARCONTI (109TH): Thanks, Representative. Senator Haskell, Representative Arora, then Rep. Meskers.

SENATOR HASKELL (26TH): Thank you so much, Mr. Chair. And I will keep it brief with just one question, since I know that -- there are many other members who are interested in -- in discussing the important Bills before us with this panel.

But this is a question probably best suited to Deputy Commissioner Hackett. I was really interested in your mention of the fact that our neighbors in Massachusetts and New York have adopted a voluntary stretch code. You mentioned over 200 towns in Massachusetts have decided to opt into this. I was just wondering, sort of, what are the factors at play as towns make that decision? What

are the lessons learned from other states as to how we can really make sure this is effective here in our community?

VICKI HACKETT: Thank you for that question, Senator Haskell. And, you know, I think a big part of it is that, the building sector accounts for 26% of our total greenhouse gas emissions in Connecticut. And heating ventilation and air conditioning comprise 60% of all building energy consumption. And over 80% of our households and commercial, industrial buildings are heated with fossil fuels.

So, you know, I think a big part of it is -- is looking at emissions reductions, right? And -- and -- and accomplishing that. And it's also about -- you know, the most effective way to save energy, and to save energy costs for tenants or, you know, owners of buildings is to -- is to build the buildings, to begin with, as efficiently as possible, right? Because retrofitting buildings later is a lot more expensive and it's a lot more difficult to do.

So, I think -- and I'll also turn it over to Mike Li, you know, if he has any follow up on -- on how the rollout has gone in Massachusetts and New York. But I think those are two of the things that are really driving factors here.

MICHEAL LI: Yeah. And I'll just add that, in Connecticut, we have a hundred municipalities that have signed up with sustainable CT. So there is a lot of interest from municipal governments on sustainability issues.

And I think, just the other thing I'll add is that, you know, in Massachusetts and New York, the -- the state through the utility efficiency programs in most cases provides support and incentives to help the municipalities and the people building these buildings in these municipalities develop them in an energy-efficient way. And so, we would have the

same proposal here, which was that we would use our conservation and load management plan to provide incentives. And then, we would also help with the modeling of these buildings so that they can be designed to be energy efficient from the beginning. So there's a whole suite of support that the state, through our efficiency programs, would be providing to the municipalities that choose to go down this road.

SENATOR HASKELL (26TH): Thank you so much, Mr. Li. So just -- and Deputy Commissioner Hackett. So just so I better understand it's voluntary for a town to opt-in, but it's not voluntary, of course, on an individual basis. So if a landlord -- say -- say my hometown were to opt into the stretch code, if a local landlord was frustrated, it would be DEEP's intention to make sure that, you know, individual property owners within these towns that decide to participate would -- would have access, perhaps not priority access, but at least, you know, well-informed access to the conservation and load management program that might help them.

VICKI HACKETT: Yes, absolutely. And, you know, one of the things, we just issued our annual plan update, I think earlier, or I guess, it was mid-last week. And one of the things that we required for -- for the upcoming months is for the program administrators to convene a landlord round table, bringing in landlords from all size buildings. You know, both for this purpose, to talk about the home energy label, for example, that we offer through the energy efficiency funds, and to really help landlords understand what's available to them currently through the funds, and to help us understand what the needs of landlords are, and so that we can structure the programs in ways that best meet their needs as well.

We really need to further those conversations. We've had some of those conversations, but it's time for us to sort of make it a little bit more

official, right? And -- and really ensure that -- that landlord's voices are at the table, and that -- and that we're talking to each other. Because there is a disconnect when tenants pay the electric bill and landlords don't, that -- you know, we -- we have to find ways to overcome.

So - so we're looking at -- at that from a variety of angles, but it's -- it's going to be a critical approach that we're going to need to take in the near -- you know, starting in the very near future and continuing going forward.

SENATOR HASKELL (26TH): Fantastic. I think this is really exciting. Thank you so much for being here. And thank you, Mr. Chair.

VICKI HACKETT: Thanks for the questions.

REP. ARCONTI (109TH): Thank you, Senator. Representative Arora, Representative Meskers, and Representative --

REP. ARORA (151ST): Thank you. Thank you, Mr. Chair. And thank you to -- to everyone on the panel, Deputy Commissioner Hackett, Director Simmons. Thank you so much for the testimony as well as your insights on this Bill.

You know, to start, I do agree with the intent of this Bill. This is extremely important that as a -- as a function of public policy, that everyone has access to high-speed internet to video and so on and so forth. It's not a -- in today's day, that's not an option. It is a necessity.

You know, what I am trying to understand is that, how do we set these goals and how do we go about it under this Bill? Because I see one gigabit per second, you know, and I don't know where that number -- how that number has been formulated because right now, three megabits per second is really required for video and Zoom. I personally never get more

than 30 megabits per second. And I'm pretty happy when I get 50 because I can have 10 Zooms going, and no -- kids don't complain at all.

And then also, by 2027, you know, there -- there are upload metrics that're being put forward. So I have three questions, really. And, one for Director Simmons, one for Chief Data Officer, Mr. Gaul, and -- and one regarding -- you know, regarding the actual educational situation in terms of access.

So Director Simmons, the question is that, are we trying to pick, you know, technology? Cause you just mentioned four years later, this will change. The way government works, you know -- you know, once we pass this Bill, nothing's going to happen in two months in three months. And we know that there's some really big changes coming around at 5g and so on and so forth. Why are we picking one technology over the other?

I am right now connected to you. And I think it's a reasonable connection via -- via wireless, you know, and I don't think that it is the purpose of the legislator or the government to pick technologies. And -- and is there a reason we are doing so?

And secondly, from your perspective, how do you choose these goals? You know, maybe it is the legislator's role to maybe put big goals for the -- for communities, but these -- some of these goals look really far out there. Right now, one gigabit per second is possibly no -- no home has access at the 45 or 50 at the basic level, \$50 a month. So how do you pick these goals?

And is this legislation too heavy-handed in terms of the regulatory -- do we -- will be able to do this much regulation because PURA or Regulation of Electric has led to really high rates. So we are not too excited about that, and we are really discussing that. So, those two are two-part question for you is -- if you would please answer.

NICK SIMMONS: Yeah. Thank you, Representative Arora, for -- for the question. You know, I -- I'd kick off by saying that, you know. I think, woe is the state and the country and the society in the 21st century that doesn't set really high and ambitious connectivity goals for themselves. You know, I can tell you China right now, Russia, lots of Western, lots of European countries, all of them are actually arguably ahead of us, in -- in some of these -- in the new frontier of -- of -- of wireless.

I mean, China and Russia right now are -- are far ahead of 5g deployment than we are. And, you know, what made -- I -- you know, just at a -- at a 10,000-foot view, I think what made America so competitive in the 20th century was our investment in being first in the world, and a lot of this infrastructure. And I -- I just don't think we can afford to lose. And -- and so we need to set our -- our goals. We need to set them ambitious, and try to reach them.

And, you know, that's just, by the way, global competition. We better believe we've got 49 other states who are out there trying to be number one at this as well. And if we want to compete economically, we need to make sure that we are one of the best in the nation. Because businesses and families continue to ask -- we can ask our friends at DCD or -- or elsewhere.

One of the first questions families and businesses are asking is, you know, "I'd like to move here. I'd like to start a family here. But what are the internet speeds? What can I get?" And if we cannot continually provide the best and the fastest speeds, those families and businesses are going to go elsewhere. Which is why the second goal of this Bill is -- is to develop the economy.

So -- but -- but you're right. You know, we don't want to be in the business of -- of picking the winners and losers in -- in this connectivity ecosystem. And so, this, right now, the Bill in terms of universal five -- universal access of 1G it is, like I said earlier -- mentioned earlier in 2021, it's the -- nothing beats the reliability right now in the -- in the ground broadband.

But the speeds of cellular are certainly catching up. And, like I said earlier, I mean, Elon Musk just launched a satellite company to provide broadband -- to provide internet all across the country. So the -- you know, we really tried in this Bill to not pick winners and losers. The goal is a goal. And we want everybody to be able to get there.

But -- but for all the broadband, that's in the ground right now, we are trying to clear up some of the issues that create an adoption gap. So, I hope that answers your question.

REP. ARORA (151ST): Yeah, no, I -- listen, we are so together in one on your -- on the goal of having access for everyone. It's just that, I just do not consider China and communist plan countries as our model. We are great because we let private enterprise define the goals by competing with each other. Why is one gigabit, if a -- if a disruptive technology comes in, maybe it's 10 gigabits, who are you -- who is -- who am I as the legislator, or who am -- who are -- who are -- who -- what is -- how does government put these goals forward? We're going to go far ahead. And I fully agree with you. We are in conditions that this should be -- we should have high access.

But our country, our system is about free economy, free competition, deciding the best possible service. And benchmarking whether it's 1 gigabyte or it's 100 megabits, you know, and then putting

costs behind this with the disagreement, or what the -- what I wanted to point out.

But I fully agree with you. We need to make sure everybody has good access. At this point, my goal is -- is five Zooms at the same time. That's my goal. And five Zooms the same time, typically is 7, 6 megabits. And I've done this study because I really -- you know, my kid pretty much had a rebellion when their -- when their -- when their Zoom drops.

So I think above 10 megabits is a wish list, not a necessity at this point in time, the way I understand. But anyway, I thank you for those answers. And my -- in -- for respect of time, and, you know, I would like a quick question for Mr. Gaul, as to -- and actually for -- for Mr. Gaul -- for Mr. Casey as to, do we have an understanding, because a very short-term quick priority is students and access for every community?

Because I -- I live in Stamford -- you know, I've lived in Stamford, I live in Greenwich and, you know, we have good access. But we still have lot of students who are unable to log in or, just as has been discussed by many others before me, do we have a -- a quantification, a number, as to what percentage of people in -- in our communities cannot afford or do not -- are unable to access because they may have the technological access, but for one reason or the other, they don't have it? Because that answer or fix is a much simpler one. And we should do it not long later, maybe in the next 60 days, because that's the dollar-sense question, and a -- and a -- and a -- kind of a equity question.

So, do we have that data as to how many communities, how many students do not have, whether it's in Stamford whether in communities, where the access in terms of is really good. How many -- how many children in communities do not have access because of those reasons?

DOUG CASEY: Thanks for the question, Representative Arora. Really a good one. So, we've done a good amount of reporting on -- on these access, both -- both real access as incurrent access as well -- as well as availability. The short answer to your question is -- is, no, we don't know how many students live in families who can't afford broadband.

In fact, one of the challenges, and this goes back to the design and the intent of the bill is, we still don't have firm data on which students are connected at home and which -- which students do not -- do not have a connection at home. The cost of it is sort of the reasons why is another factor.

I do want to make clear that I think, you know, and as Nick pointed out earlier, we've conducted some serious outreach to families. Getting students connected requires persistent effort. It requires persistent outreach. And, and there are -- there can be many reasons why students aren't connected. Or one factor that we haven't talked about is under-connected that -- that they're using a cell phone to connect. That kind of thing.

So you know, we could guess, and we could hypothesize. I've got data from a hundred different districts in my latest report. And these leaders are telling me that -- some of them have very good data that were -- they're canvassing families on a regular basis, and some of them are just taking guesses.

So again, we need -- if we have to -- to what Mr. Gaul referred to earlier, we need the sort of demand as well as the supply side data, so we can get a better sense of where that real need is. So I wish I had a firm here hears the number, but that points back to the need for better mapping and better data collection, which we as the commission were written into the Bill, we're prepared to do that work,

REP. ARORA (151ST): But Mr. Casey, may I suggest that, if we go to our school system -- you know, and let's assume for a moment, if you asked every school, especially in this current situation where this is just a -- this is just a necessity, right? If we went through our -- you know, how many we have, let's say 1500 schools give or take, or 2000 schools, if we go and have them -- give them a very quick survey to each principal and say, "Can you, in two weeks, tell us how many" -- approximately. Do not hold them to it. Or, "four weeks tell us, how many of the students do not have access A for reason A or B?"

Do you think that's that difficult to get? Because I think that's a problem, which is very immense. I think there are elegant ways to solve that problem. And I really think that writing a very, you know, elaborate law, which is going to take, you know, many, many years, or months to really do it is not -- perhaps, I'm very burning for that problem. You can hear -- I hope you hear that.

But I think, you know, going through our school system, addressing it that way, you know, putting some resources at work, even from the federal act would be a really welcome -- welcome kind of attain. So, that's just my -- my -- my two cents on it. Obviously, you have a much bigger picture than I do. But I would humbly suggest that going through our school system, getting the data, especially now that everybody needs that, you know, pretty much every student really needs it right now, would be -- would be -- would be really, really appreciated.

DOUG CASEY: Yeah. With all due respect, Representative, we've been asking for this data for -- for months. And as I said, we get inconsistent results in terms of accuracy. The other -- the other thing that would, I would lend to you is having worked very closely with our cable providers.

And when we ask -- our process was asking school districts, which students need internet, because they're not engaged in remote learning. They're not online, so they must not have access, right? That was our assumption. But when we worked with the cable companies to identify students who really didn't have access, quite often, what we found is, the students did have access at home. They're not engaged in remote learning. It's, they have the textbooks, but they're not reading would be the digital analogy.

So I -- I respect your -- your -- your -- your input, absolutely. From my perspective, having been working on the front lines of this and working with school districts and the cable providers and trying to design solutions, I just want to reinforce that having that mapping and the data to really drill into this is absolutely critical.

If I'm a teacher, to use a simple example, and my student doesn't show up, do I conclude that she doesn't have internet, or that she's just not interested in learning? That's a lot more difficult to measure. And, by looking at the actual infrastructure and the actual availability across the state, we will get a concrete answer.

And so, I will leave it at that. I -- your point is very, very well taken, and our colleagues of the Department of Education, do a lot of data collection as well. At this point, our methods aren't working to get to that, really, you know, identifying every single factor. And so, we do need this mapping to identify, at least, eliminate the -- the possibility that basic availability is -- is the impediment.

REP. ARORA (151ST): You know, I do -- actually the data part is the -- is the one which I really like in this Bill. Generally speaking, I just was suggesting maybe there's a faster way. But, you know, it's the regulatory overload and the regulatory enterprise in this Bill, which really is

basically making me very, very cautious. That, you know, to solve a simpler problem, we are going a much, much harder way.

And so, you know, hopefully, Chair Arconti, I can indulge you -- indulge me for one last question here, if that's okay?

REP. ARCONTI (109TH): Quick question Representative cause we have --

REP. ARORA (151ST): Yes. I'll keep it quick here. You know, the question that I have is, that if you look at -- at -- at folks who do not have access. Now, let's just assume it's not about money, it's not about -- about affordability, who do not have access. It's either because it's a -- it's very difficult to -- to get to that place. You know, listen, it's a \$50,000 dollar build-out, or it is difficult to get to the community, or because of, you know, "Hey, the cable hasn't done enough because they have been behind," Right? Or something like that.

When you do this data analysis -- so this is my question for -- for -- for Mr. Gaul, you know, in terms of data. When you do this data mapping, would we have an understanding of number one, that, and also number two as to if there is an excellent 5G coming in, then, you know, that'd be part of the dataset? Because, you know, this is coming in -- in two, three years. There's a lot coming in two years. To do an analysis over the next year, and a half, just basically ignoring what's going to happen a year after that perhaps would not be a good policy measure.

Can I suggest and ask you whether you going to include that, as well as, these elements of what is causing? What is the causal reason why the -- why the access is not there? Would you be including that in your data analysis?

DOUG CASEY: I will say one virtue of the way the legislation is written is it, puts this planning process in place so that we can take into account exactly these kinds of considerations, and just make sure that we don't have a blind spot before we embark on something that's sort of a longer-term process.

I do think -- I mean, the -- the focus of the -- the mapping in this proposal legislation, and the Bills was really on broadband infrastructure, not on 5G.

I do think that taking into account the -- the way the world is changing, obviously, in ways that none of us expected, I think that's something that we should put into place in that planning process, and make sure that we're looking at -- I think we've heard a couple of comments about -- questions about affordability, whether that's really the obstacle or whether it's infrastructure. And so, like taking those considerations into account in the planning process is why that -- why that proposal is there so that we make sure that those facts tend to whatever perks the state develops.

REP. ARORA (151ST): Thanks. Thank you so much for being here and for this really good discussion. Because we really believe this is an important objective of -- of policy. But, you know, let's -- we want to get this -- this right. So -- so thank you very much. And thank you, Mr. Chair.

REP. ARCONTI (109TH): Representative Meskers, then Representative Mushinsky.

REP. MESKERS (150TH): Thank you, Mr. Chair. So, I just have a -- a question and problem or suggestion to the group. In all of the conversations, I've had with the industry, that being both cable and 5G, it looks to me that we're talking essentially about the last mile, or the last two miles, when we thought about a broadband strategy versus a 5G strategy. So all I would encourage you is that when we finished

the mapping, just think when my colleague is done. I think it's essential that we figure out the most effective and cheapest way to achieve the coverage we're looking to cover.

And so I'm a little hesitant about being wedded to broadband. But I think the mapping strategy should be a strategy that solidifies that decision, which I would describe as the last-mile decision. And I'd like your thoughts specifically to that point in the mapping.

NICK SIMMONS: Sure. I'm happy to jump in. And thank you, Representative Meskers. You know, I think, just zooming out for a second, everything builds from a fundamental goal of faster speeds by 2027, right? And that, I don't think we're going to, we're going to wave around because we want the best for the state, we want the best for our economy and our people. And if you ask, you know, all -- all industry experts, the 1g -- that 1g goal for 2027 is going to set us up to be best competitive.

But after that, I think all the points that have been made around picking winners and losers, and, you know, how do we know which technologies -- we truly are agnostic. And I think, as a state, we need to be technology agnostic because, you know, there's -- there's lots of ways to skin a cat, and there's -- there's going to be lots of ways to get to -- to -- to universal access of 1g.

We passed the -- the Legislature passed a great 5G bill in early -- in the 2019 session where we are working with our cellular companies in the state to map out where cellular coverage is. But if you just look at the technology right now, and its reliance and the ability to achieve universal access, it's just much harder today in 2021 to achieve universal 1g access with -- with cellular. That said, that is 2021, and these things can change on a dime.

And so, with 5G, you know, the other thing I'll mention is that, it is going to be no doubt, faster speeds, but it's access is going to take some time because the cellular antenna for LTE can admit out about a mile or two miles, whereas 5G can only really be picked up from the node two to three city blocks, if that. So it's going to -- it's a harder deployment process.

But one, which when it's done will be great. But -- so for now, the bill and the mapping is focused on -- on broadband, but we want to loop that in with our cellular maps and -- and certainly work with towns, municipalities, businesses, families to make the best decision for -- for them.

REP. MESKERS (150TH): Okay, thank you very much. But again, I'll reiterate. My -- that is my concern that the one-size-fits-all, once we're finished the mapping that we're comfortable, where the state's funds are -- are deployed, that we get the goal achieved in the most cost-efficient manner? So I'm -- I'm not telling you how to do that. I'm not the expert on that. But when you've finished the mapping, you should have good indication where it's going to be more expensive to lay -- lay a fiber optic cable line versus a cell phone tower or notes. So I hope -- I just hope that factored in at that point.

NICK SIMMONS: Yeah. It's a great -- it's a great point. Thank you.

REP. MESKERS (150TH): Okay. Thank you.

REP. ARCONTI (109TH): Representative

REP. MUSHINSKY (85TH): Hi, good morning. I wanted to ask Deputy Commissioner Hackett, or whoever else would like to answer the question about -- I'm getting mail -- email from constituents on safety and 5G. I just wanted to ask you to address that if you feel the poll supported 5G units are -- are any

risks to the neighborhood? And also -- also, are they any risk to technicians that work on them?

VICKI HACKETT: I'm going to defer that one, if -- if it's okay with you, Representative, to Mr. Simmons.

REP. MUSHINSKY (85TH): Sure.

NICK SIMMONS: Yeah. Sure. Thank you for the question. In another role, I also sit on the 5G chair, our 5G council that was -- that was created from that 2019 legislation. You know, and there's nothing more important or higher responsibility that we have as a state government to -- to ensure that safety of our citizens in -- in all aspects of -- of -- of life.

So we did a very, very deep dive into the science behind 5G to all of the studies and analysis that have happened. And we looked at report -- universal reports from the FCC, from the World Health Organization, from the Food and Drug Administration and a few others, who all universally concluded that 5G poses, in its current form, no health risk.

And some of the concerns that have been brought up by various individuals, are some of the same concerns that were being brought up about the microwave back in the '60s and the '70s. And -- and all -- all this is, is a -- it's just a simple, higher amplitude, but much, much, much lower than any bar which would be hazardous. And this is, you know, from some pretty reputable institutions that have studied it.

I will also add, in our age of misinformation, we should be careful. There was a New York Times article that came out in 2020 -- or 2019 that noted the biggest sources of social media spread of any articles on the danger of 5G were directly spread by tied back to Russia and China misinformation efforts. Because similar to what I said before,

they know if -- if they can slow us down, they -- you know, they'll really dominate the 21st century. So, those are sort of the thoughts that we can 00 that we concluded on the 5G council.

REP. MUSHINSKY (85TH): Okay. That would be good for a least me, and maybe other people on the Committee would also like to see it. But I would like to get information summarized because, you have on one hand, the economic development folks pushing really hard for expansion, and then, on the other hand, you have nervous constituents who aren't sure they agree with the economic development folks. So, I would really love to have that information stored so I could pass it around to my constituents.

NICK SIMMONS: Yeah, absolutely.

REP. MUSHINSKY (85TH): Thank you.

NICK SIMMONS: Yeah, we can -- we can send that over. Absolutely. Thank you.

REP. ARCONTI (109TH): I'll see if anyone has their hands up. I know Senator Needleman wanted to get in on the action here.

SENATOR NEEDLEMAN (33RD): It's an interesting way to put it, Representative Arconti. Thank you, Mr. Chairman. And -- and thank you, everyone, for testifying. You folks have identified a problem. The Governor has rightfully identified an issue that we need to look closely at and try to find a solution.

Just to clarify my thinking on this, there are two separate problems here. One is a problem of access in rural lightly populated areas. Where, as one of the cable companies, CEOs referred to it, they look at not customers per poll, but polls per customers. And that has led to significant economic barriers to bring a broadband or any improved access to those

much more rural areas. That is a significant problem.

I think Representative Horn has been a champion of trying to figure out a way in her towns where many of her constituents do not have any access to internet, either wirelessly or wired. That is an adequate speed to serve the needs of their community today.

It's a big concern. It's probably not a lot of people in terms of numbers. But somebody earlier spoke to -- even if you accept the broadband company's 98% coverage number, which is certainly suspect, 2% of our residences, 60,000 people that do not have access to adequate broadband in the state.

And although I was reluctant early on with regards to the municipal game, because I was fearful that people could take advantage of municipalities that are desperate to do something for their residents. I'm now fully in favor of creating as much competition in this industry as we can.

You know, it's -- it's -- there are many providers in some areas and one provider or no providers in other areas, and that is a serious problem. The other -- and as a result of that, I support what former Senator [inaudible] did with creating an opportunity with the municipal gain for -- for municipalities to try to band their resources together, come together to try to figure out a way to provide service to their residents at an affordable price. Affordable price, being the keyword here.

In those areas, the cost to bring service will be substantial because of the poles per -- the number of poles per resident. But, I think that somehow in the future, we need to figure out a way to make that work.

The other side of the equation is in poor, you know, urban -- urban centers where many customers are underserved for economic reasons or because their properties are not -- not wired correctly.

I did speak to one of the mayors of one of our major cities, and one of the big impediments there is bringing fiber. And if it's above ground and it's on a wire, it's a lot less expensive than underground where you're bringing it and have to break up sidewalks and stuff. A lot of these original cable connections did not have conduits. So it's not like pulling another wire through the conduit.

And we already face major, major, major inequities, certainly highlighted by the pandemic, but not caused only by the pandemic, within our cities where today access, especially from a work and education point of view, boxes people in. So I applaud the Governor's attempt to solve this, or to at least bring some clarity to it.

And -- and I think that we -- we have to do something. Concerns, as I expressed to Nick earlier, where the devil's in the details and we are asking PURA to have oversight over this whole business.

And I guess my first question would go to Nick or whoever is speaking on behalf of the administration. We've -- we're -- we're putting a bill together to ask PURA to do something. This Committee interfaces directly with PURA all the time. And we know how much pressure they're under with all their dockets, trying to represent the ratepayers of the State of Connecticut with regard to electric and water.

And we know that they don't feel that they have adequate staff to do their job efficiently and well. And in the best interest of the ratepayers, they're -- they work very hard, and they're trying. Have they been consulted about this? First of all,

that's, I guess, my first question. So whoever wants to answer, feel free to jump in.

Don't ever -- don't knock each other over trying to answer that question.

NICK SIMMONS: Thank you, Chair Needleman. Much appreciated for the question. I wanted to first give Deputy Commissioner Hackett, who will be representing the state in PURA, and I know has been -- been in touch first -- first crack at that, and then I'm happy to fill in afterward.

VICKI HACKETT: So if -- if -- if you're looking for an answer to the part about PURA's resources, you know, I think the Governor's Office agreed with that and allotted, I think it's 10 positions, to PURA to -- for -- for compliance with these new -- you know, recognizing these are new obligations for them.

So I will defer to PURA to talk more about that when -- when Chair Gillett is up. But I think that, you know, the nexus between energy and broadband is -- is strong as I testified earlier. And I think that, you know, PURA is definitely well situated to handle the responsibilities that are anticipated in this Bill. And we're -- we're sure we'll, you know, do an amazing job carrying those out, so.

SENATOR NEEDLEMAN (33RD): Thank you, Deputy Commissioner. Thank you, Nick. So that -- that leads into my second question, which is, again, a conversation that we had earlier, Nick. I'm a hundred percent behind doing something. No, I don't want to be a naysayer here. I absolutely support this. I think that moving forward, equitable access to broadband is life-saving. It's now including medical treatment. And that is the way of the future. We absolutely need to do something.

But we have an industry that we are effectively preempted from regulating by federal rules. And --

and now we want to create some kind of a regulatory framework over them.

And -- and -- and although we can mandate private businesses to do whatever we want, we do that all the time, we know that there's going to be a cost implication, and my fear has been from day one that we're going to take a private industry and create all kinds of mandates eventually that we don't have any bearing in terms of what they charge for, right? PURA doesn't regulate what the cable companies charge, nor can they.

So, just the concern. I don't want to, you know, pooh-pooh this, we need to do something. I'm certainly on board with the mapping side of it. It is a problem that needs a solution, and I'm a hundred percent committed to helping try to find a solution to this problem.

It's more than the last mile, but it isn't part of the last mile. It's the last hundred feet in some cases. But we have to be very judicious about how we handle this, because these are unregulated entities as far as I'm concerned.

So, I still feel that if there's a way to get competition into this business, it would help, but the barrier for entry, even with access to the polls, that's more equitable, will still be a problem.

I think that the cost of doing this is going to be amortized over the number of customers that you have. And -- and because of that, in the rural areas, the cost -- you know, the amortization of the cost is going to be quite significant per -- per user.

Last -- last comment. Does anybody know what Starlink is? Any -- any of the administration folks? No? You know, I -- so, Starlink is Elon Musk's side gig where he's been launching thousands of

satellites to provide satellite internet to rural areas. How much research Nick, have you done on that?

NICK SIMMONS: Yeah, no, we've been -- we've been tracking Starlink carefully. And -- and I think it goes to your point, Chair Needleman, on competition. And some of the points mentioned earlier where, the state really wants to be agnostic on technology and in company and industry in this case. And so, you know, step right up Starlink, you know. If that's the cheapest, fastest, solution, you know what -- that's, you know, we want to do all weekend to -- to get that out there.

SENATOR NEEDLEMAN (33RD): My concern again, comes in -- the best example I can give you is when I bought a house in 2001, I wired the entire house for phone service and for cable TV and for internet access. Literally, every room had a three-prong jacket in, and about six months after I moved in, none of those were necessary. So, I worry about building out a more infrastructure in the rural areas, when a product like Starlink may become a viable option that leapfrogs the technology.

And so, certainly mapping -- some other things that we can do, I think that don't put our finger on the scale of, you know, we're going to buy this technology for everybody and then have a big investment made with stranded capital costs that are going to be unnecessary in the future, so.

ATTORNEY BURT COHEN: Excuse me, Senator Needleman, may I first introduce additional information that might put your mind a little bit at ease?

SENATOR NEEDLEMAN (33RD): Yeah.

ATTORNEY BURT COHEN: Thank you. And -- and your -- your question is -- is very timely. But we have to remember that right now broadband funding is -- is becoming more and more available at the federal

level. So, right now we have, there's \$300 million dollars that's going to be distributed by the NTIA, the National Telecommunications Information Administration.

I've been advocating that that be divvied up equally amongst the 50 States, which would be \$6 million for the state of Connecticut for broadband expansion. I don't know if we'll get the \$6 million, but that decision on releasing that money will be available in the next month or so.

There also is money in the American Recovery Act that hopefully will be passed this week that the state can allocate to broadband expansion.

In addition, we're all familiar with, we've heard on the news, the Biden Administration's Infrastructure Bill that has not been released yet and sponsored yet. But in any event, the Infrastructure Bill is going to rely -- is going to focus a great deal, we've heard, on broadband funding.

So in going back to the NTIA, which is the \$300 million divvied up amongst the states, the state -- the way that funding is going to work is the state has to work with the providers who meet certain eligibility requirements, and the states have to apply with the providers for that funding. So there is going to be federal funding available.

Also, this is another thing that I want to just -- hasn't gotten into the record yet, the discussion about consumer costs. Obviously, the Office of Consumer Council is always interested in consumer costs.

Right now, there's the emergency broadband benefit, that I think was mentioned earlier this morning, that will be coming out in about 50 days. The FCC is administering that, and I believe that most of the -- many of the ISP providers in the State of Connecticut will be signing on to the FCC. And that

money, that provides \$50 per month for broadband bill, it gets paid directly by the government to the provider, to eligible low-income households.

There's about six months of funding that's available there. And there's hopeful -- of hope that in the Infrastructure Bill that will be extended.

Also, in the Federal Consolidated Appropriations Act that was signed at the end of 2020, there's funding for utility Bills for renters which often, but not always, are low-income. And for low-income eligible renters there is a subsidy that's available for utility bills and that includes broadband service for purposes of that funding.

So there's some money out there. It's certainly in terms of the broadband expansion, Senator Needleman. It's going to be out there, this year. It's going to -- I know the NTIA money has to be spent by the end of 2021. I don't know what the -- what is going to be in the Infrastructure Bill, but now is the time. If we're ever going to get the state 100% wireline connected, this is the time to do it, sir. I hope I helped.

SENATOR NEEDLEMAN (33RD): Thank you with that, Burt. And you know, I listened to Tom Rutledge, on their earnings, call, a charter, a couple of weeks ago, and he spoke to some of the federal programs. And look, whatever it's going to take, is what we want to do, and want to get everybody onto an equitable platform if federal money helps. But I don't know how any of that limits, what the consumers pay.

You know, that we had a big thing with Comcast, then data caps and price increases and all that. I -- we have a very inequitable system. You know, it doesn't change many people's lives if they provide more server symbols or more infrastructure, and speeds go up. But over the grand scheme of things, you're going to begin to price out people at the low

end. And creating equitable access is another whole issue that almost by necessity has to be dealt with at the federal level.

ATTORNEY BURT COHEN: I totally agree with you.

SENATOR NEEDLEMAN (33RD): Thanks a lot. And -- and Mr. Chairman, I think I'm done.

REP. ARCONTI (109TH): I see Representative Ferraro put his hand up.

REP. FERRARO (117TH): Thank you, Mr. Chair. My comment goes to Attorney Cohen. First, I'd like to shout out to him that, I see in the background of his wall, there's a photograph of the 1968 West Haven football front four, of which he was a part of. And just as a matter of record, that team was number one in the State of Connecticut, and number six in the country. So while I make that point.

Good to see you, Attorney, former Westie I must add.

ATTORNEY BURT COHEN: Thank you.

REP. FERRARO (117TH): And I just wanted to -- to comment on many of the members that I have been speaking with, and their concerns with regards to the competition model and picking and choosing losers and winners, and costs to the consumer. And quite frankly, there is a lot of concern with regards to the Bill, and how it's going to, at the end of the day, with emerging technologies with 5G, how it's actually going to benefit?

And why is it at this time? I've noticed a lot of commentary as this is the right time. I'm -- I'm not 100% sold on it. The cost, I think I've spoken to you about this with regards to laying out the infrastructure necessary to bring this technology to those people who don't have it. And then, laying on top of it, the cost of fiber optic lines, which we know are even more expensive.

And eventually, it's going to have to go back to the consumer in the cost of covering cost. So, if you can just speak to that a little bit, I'd appreciate it.

ATTORNEY BURT COHEN: Sure. again, with respect to the -- the cable industry, Representative Ferraro, I can't tell you whether they would expand with fiber or coaxial cable. I -- based on what I've read for area mile of coactive -- fiber it's about roughly \$15,000 dollars per area mile.

So again, coaxial cable probably is significantly less, but I don't -- I don't have the numbers for that.

In Northwest Connecticut, in the pocket where Representative Horn has many of her constituents. Based on the last time the state actually looked at that for purposes of ordering cable operator build-out, there was about 110 miles of unbuilt territory. This was probably in the mid-2000s. And I understand that Comcast has built out -- I don't know, a few miles beyond that since then.

So I use a rough number of -- I just use 110 miles in that area that is unbuilt, that's about one -- if you use fiber, that's about, in my back of the envelope calculation, that's a little over \$1.6 million dollars build-out in the -- respectfully in the -- in the broadband expansion world. That's pretty low. That does not, of course, include electronics or whatever. It does not include connections to the home.

With respect to what are the concerns that you and I spoke about, just to get it on the record, for people who live on private roads, or they live far away off of the public road or houses way set back, those are non-standard installations, and they are responsible for the connection costs.

The problem is that, we do not -- the state of Connecticut has never, ever allowed, to the best of my knowledge, cable companies to charge for construction in aid of contribution. It never was allowed in the state before the 2007 cable law was implemented. that basically took away from the DPUC, any oversight authority over PURA. Contribution aid of construction is not a rate. You may have a -- a federal lawyer -- DC lawyer come in this afternoon and tell you it's rate regulation; prohibit that. That's wrong. Our law firm litigated that on behalf of the cable industry. And we watched that in 1985.

CIAC is not a rate. So, in that -- that case was not appealed, and that's the law in the State of Connecticut.

So, much to my chagrin when I came into this position, I found that cable companies were charging consumers for contributions in data construction to build cable system facilities on the public rights away.

And you'll have -- you have some testimony that comes in from the First Selectman of Scotland today. And I hope he's still on and will testify to you in person about his experience. But I would strongly recommend that you read his testimony about his experience with a cable operator who extensively was reporting a hundred percent full service, full construction in the franchise area. And mistakenly did not complete part of the franchise area. And then went on during the pandemic -- during the pandemic to charge consumers for construction on the public rights away.

It's my fervent hope that when federal money comes available, that any consumer who is charged CIAC during the pandemic gets a refund, gets that money back somewhere. Whether it's from the federal government, the state, or the providers, that's just

wrong. So with that hope, I probably went beyond your question, Representative Ferraro.

REP. FERRARO (117TH): Well, actually, I do appreciate that last caveat. I agree with you. It would be great to see them get reimbursed for -- for that, especially, you know, having the hardship through a time, and something that was no fault of their own.

I do appreciate your historical context and -- and -- and the detail that you go in -- that you went in, because I think it's very helpful, and in some of these legal aspects that I think are -- are important. So thank you, Burt. Appreciate your time. And, good to see you again.

See you again, Representative Ferraro. Thank you.

REP. ARCONTI (109TH): Thank you, Representative. That's it for the panel. So I want to thank the panel for coming together and giving us a crash course today on all things broadband. And I want to thank the Governor for introducing this Bill to our Committee for our consideration.

You know, I do believe it is a timely piece of legislation while our state in the country is exiting out of this global pandemic. The economy and the workforce and how we live and how we play is -- you know, may never be the same again after this pandemic.

And we need to set Connecticut up for success, especially with all these new residents moving into the state over the last year. We want to make sure they stay here.

And I think this Bill is a start. It's a very good start in transforming our state. And I'm looking forward to working with -- with all stakeholders, the administration, my colleagues on this Committee both sides of the aisle, to getting a -- a final

version pass out of the House floor in the coming months.

So, thanks to the panel, and we'll be talking soon.

VICKI HACKETT: Thank you so much.

REP. ARCONTI (109TH): Thanks, guys.

NICK SIMMONS: Thanks for having us.

REP. ARCONTI (109TH): Up next, we're going to go to PURA. And then after Chair Gillett, we will -- Mr. Clerk, you can start going back and forth from members of the public, and public officials list.

MARISSA GILLETT: Thank you, Representative Arconti. My name is Marissa Gillett. I'm the Chair of PURA. And I want to thank the -- the Co-Chairs, the Ranking Members, and the Vice-Chairs, as well as all the Committee Members, for your attention, and for allowing me to address you this afternoon.

PURA has provided two sets of written informational comments for your consideration. We provided written informational comments on SB No. 4, as well as HB No. 6442, that we were just discussing with the panel.

I also want to briefly advise that PURA is supportive of the concepts in HB No. 6571, which is the C-PACE Bill. Specifically, as PURA scales up, it's focus on resilience measures and other matters. We feel it's very important that the state has all of the levers available to it, to contribute to the resilience of our infrastructure in the state.

And the last Bill that I would offer verbal testimony on is, we see that you have raised SB No. 991, which PURA is supportive of the concept of. In fact, coming out of the hearings last year, we ordered this -- we directed our staff to stand up a

working group that involves all stakeholders to tackle this very issue.

Specifically, we have docketed as number -- docket number 140719, reopener number 6. And we have tasked our staff with providing a proposed decision for our consideration no later than September 30th of this year. So I'd be happy to address that further, also to talk to the Committee about how you can provide comments on that matter.

In the meantime, since September is still over six months away, I would draw your attention to some resources that we have placed on our own website that are narrated PowerPoint presentations that seek to walk customers of Eversource and UI through their existing Bill setup.

And again, recognizing that there was a lot of confusion and frustration that continues to mount specifically over the issue of supply versus delivery charges on the Bill. So, happy to address that any further.

And really, I'm just here to make myself available to answer any questions that you may have. The informational testimony that we've provided on SB No. 4, which is the net neutrality Bill. We've tried to provide some context about PURA's existing cybersecurity efforts, which I'm happy to get into.

And then our informational written testimony on the broadband Bill tries to walk through how pure views our role in implementing that Bill, if you so choose to enact it.

So, with that, I want to thank -- thank the Committee again for having me and happy to answer any questions that you may have.

REP. ARCONTI (109TH): Thanks. Thanks, Chair Gillett. So, on 991, you know, I see your decision is actually -- will actually -- on the docket

actually would be before the implementation of this Bill were to become lost. So, I'm not saying your - your decision pre-empts the Bill, but, you know, the work you're doing essentially does the intent of this piece of this proposal.

MARISSA GILLETT: That -- that is certainly my read is that the -- the proposed legislation is mirrored by the direction that we've provided to our staff in that docket. I'm happy to go into any further detail. And it's not too late to expand the scope of our docket if the Committee feels after comparing the legislation and our docket directive side-by-side that -- that PURA has missed anything in the scoping.

REP. ARCONTI (109TH): Thanks. Just lemme get that on the record. Representative Cheeseman.

REP. CHEESEMAN (37TH): Thank you, Chair Arconti. Good to see you again, Chair Gillett. I'm just looking at your testimony on 6442 particular, the CVFA holder affidavits and certifications, and you point out that you're required -- it's, you know, that -- no -- currently no CVFA holder has facility servicing the entire state. You require such certified companies to submit an affidavit to that effect.

So basically, we said, you've got to cover the whole state, but they don't. So, how would you suggest PURA address this? Would this be by a change in the language?

MARISSA GILLETT: I apologize for the -- the wording of this section. What I am -- what I think we are trying to convey there is status quo versus what we think the legislation directs us to do.

REP. CHEESEMAN (37TH): All right.

MARISSA GILLETT: So, the status quo is that, to our knowledge, no CVFA holder currently serves the

entire state, and under this legislation, it would -- it would direct them to file an affidavit. And I think to effectuate that. We would look to the intent of the Bill and exercise our -- our civil penalty authority that the Bill would provide us, if the CVFA holders did not file their requisite affidavit. So this was not meant to convey that we think the legislation needs a change, but rather to compare the status quo versus --

REP. CHEESEMAN (37TH): [crosstalk] How would it affect your operations going forward with regard to administering any civil penalties that might result, if they don't -- don't follow the legislation, right?

MARISSA GILLETT: Yes, ma'am.

REP. CHEESEMAN (37TH): And then, looking at the achievement of statewide goals, and you talk about it -- and I believe other Members have discussed this, how providers who were, you know, required to complete this build-out, would recoup their costs, and that there's currently no mechanism for you -- you to have to engage in this conversation as to how they would then recoup those costs.

And you do mention the federal funding that's going to be available, which -- to which Attorney Cohen referred. And I -- you know, speaking personally, I would love to see a stipulation on the part of the Legislature that those federal funds be used to, you know, subsidize if not offset the cost of this, so it's not passed on to the ratepayers.

And -- and you mentioned the increased workload, both in terms of developing the -- the staff with the necessary expertise to oversee and administer this, as well as the time required to do that. Do you have any estimate of the -- about the time lag in terms of when this is supposed to start in terms of recruiting and training staff? And the -- ideally, the additional number of staff you would

need to administer this increase in your responsibilities?

MARISSA GILLETT: Yes, Representative Cheeseman. Thank you for those -- those questions. So, what we're trying to convey through our testimony is that PURA certainly has expertise in understanding public service companies and seeking to hold them accountable. And, we would try to leverage that expertise to realize the legislation's intent as we understand it.

Unfortunately, it's been a couple of decades since PURA has directly and substantively regulated the telecom or cable industry, falling the deregulation of those. So we do not have any in-house staff that have substantive expertise with respect to broadband or cable matters, currently. So I would have to recruit for that.

We did provide an estimate to that Governor's Office on the number in different types of staff that we think would be necessary on a section-by-section basis.

To -- to be frank, I think what came out in the Governor's budget is a little bit on the lean side for what PURA projected it would need. But we're prepared to see how the proposal evolves. And I would appreciate having an open line of communication about that, because the last thing that I want to do is -- you know, PURA's a creature of statute, and I want to be able to faithfully execute the intent of the legislation. So I'd appreciate an open line of communication on that.

REP. CHEESEMAN (37TH): I think that's definitely advisable. And particularly, as we have so many conversations with you, and seem to be increasing your responsibilities and given how lean and mean you are. If we're going to start throwing extra stuff at you, we want to make sure that you have the resources. And obviously, that is a question of

finding the appropriate level of funding. So you can carry out the tasks, we as a Legislature, have demanded of you. All right. Thank -- thank you so much for your answers. Thank you, Mr. Chair.

MARISSA GILLETT: Thank you.

REP. ARCONTI (109TH): Representative Steinberg.

REP. STEINBERG (136TH): Thank you, Mr. Chair. And thank you for being here. I had -- I made the big mistake of stepping out for a minute, so I didn't hear all of your testimony. But there was a question I asked earlier of Deputy Commissioner Gillett with regard to reliability and resilience issues in the internet and broadband sphere.

And I remain concerned that we may be addressing overall coverage, but not the critical issues that enable everybody to really participate. I was wondering if -- I know your dockets cover everything that could possibly happen to Connecticut. But is there something you would like to add with regard to resilience in that context?

MARISSA GILLETT: I really appreciate that question. You have -- you have not missed any answer on that. And you're correct, the eighth track of -- 8 out of 11 of our equitable modern grade proceeding is focused on resilience, although it is a theme throughout.

And, what I would add is, as we wrap up our investigation into the electric company's preparation response to the tropical storm last fall, we will take in the in the lessons learned from that, and putting them with renewed vigor into the eighth track of the equitable modern grid. And some of the things that I, you know, received, you know, and -- and know, based on my experience in Maryland recovering from the 2011 [inaudible] is that, there is certainly a role, in my opinion, for

strategic undergrounding, and especially on circuits that are repeatedly hit or serve critical facility.

And I think that's something that you're going to see us explore, you know, with renewed interest in this docket. And how I would marry that to a legislation that's pending before you, is I think the emphasis in Section 20 on the one-touch make-ready, but there's also some directives in there for PURA to look at what I would consider -- I don't -- I don't know what the technical phrase for it's -- it's not on the top -- tip of my tongue. But when you open up the road once to, you know, underground, doing it all at the same time with everything in the -- in the area.

So, I think there's some, you know, definite benefits that would come from, you know, having this done and looked at all under one umbrella and at once. And I would definitely seek to maximize those efficiencies if you asked us to move forward with this Bill.

REP. STEINBERG (136TH): Thank you for that. As a quick follow-up, after the storm, we heard some buzz about the need to assure that cell towers had as some sort of backup systems, and it offends my environmental sensitivity to think of a bunch of generators out there, all across the state. But have we contemplated at all a way in which to assure that we can rebound from a storm including cell towers?

MARISSA GILLET: That's a great question. I think your Committee is -- as, you know, even had a Bill, a couple of public hearings ago about that, mandating backup for cell towers. So PURA provided feedback on that Bill just to advise the Committee, if you move forward with that legislation that we may want to clean up and make sure that the small antennas that are increasingly on every other utility pole are exempted from that requirement

cause we're concerned for safety reasons about overloading of those poles.

But for the, you know, large cell towers, which is, I think, the root of your question. We are in our third track of grid mod, looking increasingly at developing storage programs. And I follow your -- your points there about, you know, mandating diesel generators across the state would not do anything for our knocks under performance.

But perhaps, you know, making cell providers -- cell tower providers eligible to participate in the storage programs that we are standing up in our docket would go a long way towards increasing both resilience and recovery from these increasing events.

REP. STEINBERG (136TH): Thank you for that. I really do like that idea. Thank you very much, Mr. Chair.

REP. ARCONTI (109TH): Thanks, Representative. Seeing no more questions from Committee Members. Thank you, Chair Gillett.

MARISSA GILLETT: Thank you.

WILL GINN: Okay. As said, we're going to start alternating back and forth between members of the public and the public officials' list. So first off, we're going to have Daniel Lyons, followed by the Connecticut Green Bank people.

DANIEL LYONS: Great. Well, thank you for allowing me to testify today. My name is Daniel Lyons. I'm a professor at Boston College Law School, where I teach and write in the fields of telecommunications, internet, law, and federalism. I'm also a visiting fellow at the American Enterprise Institute. Although, I'm testifying today on behalf only of myself.

I want to make two points briefly about the first two sections of Senate Bill 4. First, Connecticut may not have authority to enact net neutrality as the Bill may be preempted, at least for the moment.

Second, even if Connecticut could enact this Bill, there are good reasons why it should not enact either net neutrality nor ISP-specific data privacy rules.

So on preemption, the FCC is restoring internet freedom order repealed federal regulation similar to the -- those of the Bill would impose on broadband providers.

When the DC circuit upheld that order in the Mozilla case. The court noted that, if the commission can explain how a state practice actually undermines the 2018 order, then it can invoke conflict preemption.

And the state called in a case called [Geier.] The Supreme court clarified that when a federal agency faces a choice of legal regimes and deliberately imposes a, this far and no further regime, then it preempts state laws that would go further. And that's precisely the situation we have here. This Bill would impose obligations that the FCC explicitly rejected as harmful to consumers and innovation.

Admittedly, a California court has cast some doubt on this preemption theory. And, of course, the new administration is likely to go in a different direction on net neutrality. But I'd encourage the Committee to wait and see what the Biden FCC will do before acting. At best, this Bill could be superfluous. At worst, it might conflict with the commission's future plans.

Even if Connecticut could adopt net neutrality rules, there's good reasons why it might not want to do so. But the primary concern with net neutrality

is paid prioritization, the favoring of some traffic over others.

But there are good and bad reasons while you might prioritize traffic. So, for example, the amount of congestion, right? You might want to prioritize a telemedicine application over a cat video or a web page. Especially if the web browser consumer won't even notice that he's been deprioritized.

Net neutrality rules deny us that flexibility for smart traffic management, fear of abuse. It's throwing the baby out with the bathwater. Before you do that, I think it's important to understand clearly the downside of prohibiting companies from engaging in so-called good prioritization.

Then finally, I think it's a mistake to create a new, more stringent privacy regime that applies to ISPs, but not other internet-based companies. This portion of the Bill is based on a defunct FCC proposal, but the FCC didn't choose a two-tier system and give a -- decide to give a soft touch to Amazon and Google as this --

WILL GINN: Thirty seconds.

DANIEL LYONS: simply lacked jurisdiction over the other internet-based companies.

This Bill creates an unlevel playing field in the market for advertising dollars. One that's tilted toward Google and Facebook, which already collect \$2 out of every \$3 dollars spent on online advertising.

Handicapping ISPs in order to benefit incumbents is, I think, bad for competition and ultimately bad for consumers.

REP. ARCONTI (109TH): Thanks -- thanks, Daniel. Senate -- Representative Fiorello.

REP. FERRARO (117TH): Thank you, Mr. Chair. And I would thank the gentlemen for his testimony. This is not the first time that he's appeared in front of us. And he always brings an in-depth understanding of this issue.

With regards to the preemption comment made, I guess, this administration is contemplating some type of federal policy that, as you said, would make this particular legislation.

And quite frankly, I'm a little bit internet neutrality or net neutrality. I'm suffering from net neutrality fatigue as I've seen this Bill one too many times, in my opinion. But could you just elaborate a little bit more on -- on that new legislation, and how it would impact -- the federal legislation, how it will impact this one?

And also, you mentioned briefly in your testimony regarding the benefit to Facebook and -- and we -- I guess you said Twitter, I don't remember. Could you also elaborate a little bit more on that?

DANIEL LYONS: Sure. Happy to do so. And by the way, I share your concern with burnout. I thought this was a great issue until I made tenure. But once I made tenure, tired of playing around with it.

So, on the preemption point, I think you're right that the Biden FCC is -- is contemplating moving in the direction of adopting new net neutrality. If they wind up looking a lot like what's in the current Bill, then the Bill is effectively superposed, right? No blocking, no throttling, no paid prioritization, you're not doing any additional work.

The concern in that situation would be if the language in the current Bill ends up conflicting with what the FCC ultimately decides. So, for example, the language in the Bill, more or less, recreates what was in the 2015 Open Internet Order

that the Obama Administration passed. That may or may not be where the FCC decides to go this time. It may adopt a language that is more strict or less strict than what the 2015 commission did. In which case, there could be a conflict. You don't know until you -- the commissioner has already acted.

Even if they use the same language, there's concern when the same term is interpreted differently by two different tribunals. So, for example, one of the pieces of Section 1 talks about a broadband provider, not -- unreasonably interfering with, or disadvantaging the ability of an edge provider to reach a consumer. Those words, *unreasonable* and *disadvantage*, are not self-defining, right?

So even if the federal regulation says the same thing, a federal court could interpret that language more broadly or more narrowly than a state court would interpret the language in SB 4. A particular action, the state court might consider unreasonable. The federal court may not. In which case you still have a preemption path.

Ultimately, I think the question of preemption is going to depend on what the FCC puts into their, as yet unwritten, regulation about preempting state authority. Every net neutrality order we've seen, either pro-net neutrality or anti-net neutrality. Going all the way back to 2010 has had language preempting state action that is inconsistent with the order.

Just as one bit of a side, there is a -- a slight concern with regard to the wireless piece in particular. The -- as I think it was mentioned on the earlier panel, the existing Communications Act preempt state ability to regulate rates for wireless service.

So if wireless includes a wireless broadband, which the act provides that it does, that raises a question about whether or when Connecticut bans paid

prioritization, right? Charging a rate for priority delivery. Is that a rate that's preempted by the Communications Act? That's not something that any court has spoken on yet, but I think it's an argument that's also out there.

I believe you've also asked briefly about data privacy. The point I would make on that is that, it's a mistake, I think, to think about privacy in a vacuum, right? What is privacy? Privacy is consumer information. Consumer information is the lifeblood of the internet ecosystem, right?

The reason, why so many goods and services on the internet are free, are because companies monetize data rather than charging consumers directly for their the services they provide. What this Bill does, is it imposes an opt-in rule on -- on internet service providers, meaning they can't collect data on consumers, unless the consumers say, "yes' -- officially say, "yes."

It doesn't adopt the same rule with regard to internet companies, right? Google, Amazon, Facebook. So what that means is the pool of data available for Google and Facebook to monetize is much larger than the pool of data that you make available for ISPs to monetize. That puts ISP is at a disadvantage when they're competing against Google and Facebook for digital advertising dollars. They don't have the data to provide targeted advertising the way that Google and Facebook do.

And the reason that's a problem is because Google and Facebook, between the two of them, already are the -- the 600lbs gorillas of the -- the digital advertising industry, they collect two out of every \$3 dollars spent on digital advertising.

ISP's are new to this game. They want to break in and disrupt that duopoly. But this Bill makes it harder for them to do so, and so it actually entrenches existing incumbents.

REP. FERRARO (117TH): Well, Dan, I thank you for your answers. As I said earlier, I'm really -- I really have net neutrality fatigue on this. And I hope that, however, we decide this session on this particular Bill, that it's the last I hear of it, because I've always felt that this is a solution looking for a problem here. And -- and most of what this Bill wants to accomplish is already being done.

And, I just see very little need for -- for this legislation. And that, I do know that some of our leadership is pushing for it, but I do -- I'm really tired of it. So, thank you for your testimony. And I appreciate it. Thanks.

DANIEL LYONS: My pleasure.

REP. FERRARO (117TH): Thank you, Mr. Chair.

REP. ARCONTI (109TH): Thanks, Representative. Seeing no other hands raised. Thank you for your testimony, again. Representative Arora had his -- just put his hand up.

REP. ARORA (151ST): And thank you, Chair Arconti. And I will try to keep this short. Thank you, Mr. Lyons, for -- Professor Lyons for -- for your -- for your -- for testifying today, and for being an -- being an expert in the room. Because it -- it gets -- it could be a complicated topic. I, myself, am an electrical engineer, but it's still very, very difficult to really sometimes figure out what's going on.

So the question here is that it's the -- it's the paid prioritization, which is one of the -- if you had to say the three big elements of this Bill, paid prioritizations, which is -- will be disallowed. So, for example, a firm cannot go and say, "I'll pay more, you know, please give me --" When especially in the -- obviously this is only applicable under congestion. If there's more capacity than -- than

the actual data flowing, it doesn't matter. Everybody gets to wherever freely. Is that what's really the the -- the key thing?

And secondly, can you do pay prioritization just for Connecticut? And then -- you know, what about if -- if a company is -- is streaming from the data center is somewhere else. So, is it not something? This is a big together network. How does how does a provider conform to this law, if New York doesn't have that law, and they want to sell that product in New York. It just -- does it make it a total mess?

DANIEL LYONS: It's a good question. I can offer a partial answer. Although, I -- I agree with you, the -- the nuances of network engineering are difficult to -- to ascertain.

I think you're right that paid prioritization is the most important piece here. That's where the rubber hits the road in this debate. Most, if not all, major ISP has said they have no problem with the no-blocking, no-throttling requirement. They have no intention of doing that anyway.

The real issue is, whether to allow paid prioritization subject to some kind of anti-trust type review to make sure that -- that ISP is aren't abusing the practice.

The question about whether paid prioritization can happen within a state is I think one that court's going to have to address going forward to states continue to act on this, because effectively it's regulating interstate transmissions, right?

It may be possible drawing on the old telephone network distinction between local and interstate calls. It may be possible that Connecticut can prohibit paid prioritization of traffic that originates and terminates within the state of Connecticut. But I -- my sense is that the vast majority of traffic on the interstate in nature, and

then it becomes really hard to figure out if, not possible, for engineers to decide, "Can we sell prioritization in some states and not in others? And what do you do about cross-state traffic?"

It may -- I think it is quite possible that, to the extent that Bill is interpreted as preventing interstate pay prioritization may violate the Dormant Commerce Clause. But the Dormant Commerce Clause is one of those things that we law professors like to refer to formerly as a "mess." And so it's not a hundred percent clear where the court is going to come out of the way on that.

REP. ARORA (151ST): So, on paid prioritization -- I just want all of us to -- you know, at least maybe myself I'm a -- I'm the first time -- this is my first year in the Committee. So, you know, I want to clarify that, on -- when you say paid prioritization, is it only on the server end, or is it also on the consumer end?

Like right now, I can get a \$40 program from -- and, you know, for my business and for my Committee work, I get a \$60 program because, you know, "Hey, listen; otherwise, I'll be dropping when I'm with esteem members of my -- of my -- of the CGA." Whereas, you know, listen, if -- for personal use, I might even have a -- a cheaper program. So does that really mean that those bandwidth will not be -- they won't be able to offer all you can take on our side, on the consumer side, or this is -- discussion is only limited to the server-side?

DANIEL LYONS: Yeah. Well, this is really getting at is on the service side. It's sort of the -- governing the relationships between ISPs and internet-based companies. Nothing in here is -- is focused on the consumer end of that. At least that's how I interpret the Bill. That's how this language is generally interpreted.

REP. ARORA (151ST): Got it. And finally,
[crosstalk]. One last clarification, if you may --

DANIEL LYONS: Yeah.

REP. ARORA (151ST): -- cause I'm already asking too many questions, I'll be, you know, a little quick here. Is that -- you know, from a point of view of actual regulation or regulatory framework to be built, is it easy for PURA to just basically say, "We'll build this -- this -- you know, we'll hire five or ten people, and really build this." Or because other -- have other states done it? Or is it, you know, "Do you need a lot of network engineers? And it's a very complicated thing." How does it happen? You know, because there's a lot of network issues. There there's a bunch of other things coming in, or so will we -- do we have -- is it easy to build that capacity to -- to manage that -- that -- that kind of a regulatory framework?

DANIEL LYONS: So it -- it's interesting because, what you're really talking about is managing the delivery of traffic over the -- just the last-mile network, right? If you think about the old phone company turns out it would have been like the wire from the local switchboard to your house. What it's not looking at is the rest of the internet, right? The traffic over the network of networks that make up the internet.

That's one of the -- I think, additional complicating factors of this is that, the network is a network of networks, and all you're really talking about is regulating that last bit of the architecture. It doesn't affect what happens within the interstices of -- of the network between origination and destination point.

Can network providers provide this? Yeah, in fact, they're doing it right now, right? Paid prioritization is not something that most ISP's

offer. For the reason you cited earlier, that capacity is not really an issue.

But we -- we talk about paid prioritization as sort of fast lanes and slow lanes, but that's a bit of a metaphor. What it really means is, what do you do in the event of network congestion? How do you decide which packets go through first, and which packets have to get dropped and therefore resent? Which delays the overall messaging.

And different applications have different susceptibility to congestion. And, that's why some internet providers, right, video conferencing, for example, may want to pay to make sure that their traffic gets through. So you don't get that noise skip thing that happens, right?

REP. ARORA (151ST): Right.

DANIEL LYONS: Whereas, if you're a web provider, your consumers aren't going to notice.

REP. ARORA (151ST): Yeah, no, I -- it would be a shame if all the, you know, what you call, you know, the tablet traffic has the same access as healthcare traffic, that would be -- that would be pretty sad. But, you know, thank you for educating myself and others on this topic. Thank you. Thank you, Mr. Chair.

SENATOR NEEDLEMAN (33RD): Thank you, Representative Arora. I see Representative Meskers's hand is up.

REP. MESKERS (150TH): Sorry about that. I just would love to hear -- so, the thoughts on implementation, it wasn't as clear to me about how you've customized for one state, and what the thought is there, and what the chances that we end up with a problem in -- in terms of our competitive position versus other states. I mean, what are we asking the data providers to do, and how difficult it is for a population of 3.5 million people?

DANIEL LYONS: So, if the goal of the Bill is to ask ISPs to segregate interstate from interstate traffic on the internet, I think that's probably difficult, if not impossible, to do because of the ease with which an originating point can be mass hidden by virtual private work architecture or -- or structures like that. I think you'll never get a hundred percent compliance.

If the goal of the Bill is not to do that, just to say whether the traffic is interstate or interstate, you can't prioritize, then I think you have a Dormant Commerce Clause problem. As to the engineering difficulty, so I'd have to defer to folks who understand the networking aspects a little bit more than I do.

REP. MESKERS (150TH): I guess, as a -- as a question in the comment, it would seem to me that, we kind of decided this in the electric utility business, where we decided to make the -- the -- the wires, the transmission company. And the content providers separate, and we paid for that separately.

We decided already that this industry, as competition between the satellite, at some point 5G and cable, and now we're trying to -- trying to tell them that their -- their pipeline they own, they have to -- they can prioritize. So it -- it seems difficult to me, and commercially questionable, unless we decide that this market from the FCC level should be regulated.

I mean, it would seem like it's -- it's an overreach to do it at the state level. It is -- it would seem that this would be a very easy exercise at the federal level to the FCC, if it was a regulated market. And -- and it sounds like that would be the assessment you would make as well. Is that correct?

DANIEL LYONS: I would say easier at federal level, yes. Just like when we deregulated the electricity

industry, it was Ferc who set up the wholesale power markets and handled a lot of the the -- the we lead on the transmission.

REP. MESKERS (150TH): But that was on the basis of the decision that that was a monopoly in a regulated market.

DANIEL LYONS: Right.

REP. MESKERS (150TH): So, we've -- we've done the exact opposite in this instance, an obstacle, which is, we need to reregulate it at the federal level. We decide how we prioritize funding versus [crosstalk].

DANIEL LYONS: Yeah, I think that's right. I think there's a distinction in -- in the intermodal nature of competition here, which we don't yet see, at least on the delivery side, the distribution side in electricity.

REP. MESKERS (150TH): Yeah. Okay. Thank you very much.

REP. ARCONTI (109TH): Thanks Representative. Seeing no more questions. Thanks, Daniel.

DANIEL LYONS: Thank you.

WILL GINN: Next up, we're going to have the Connecticut Green Bank Group, which has Brian Farnen, Bryan Garcia, and Mackey Dykes, and that is going to be followed by Edyta Weighart.

BRYAN GARCIA: Great. Thank you, Will. Co-Chairs, Arconti and Needleman, Vice-Chairs, Allie-Brennan and Winfield, Ranking Members, Ferraro and Formica, and Members of the Energy and Technology Committee, good afternoon. My name is Bryan Garcia. I am President and CEO of the Connecticut Green Bank.

I am joined today by Mackey Dykes, our Vice President of Finance Programs and Officer, and Brian Farnen, our General Counsel and Chief Legal Officer.

We're here today to express our support for Raised Bills 991 and 6571. Raised Bill 991 would seek to provide customers of the electric distribution companies with an itemized explanation for the charges appearing on their Bill, including the combined public benefits charge.

One small component of the combined public benefits charge is the clean energy fund, which is administered by the Connecticut Green Bank. This charge amounts to between \$7 to \$10 dollars per household a year.

In FY 2020, the Green Bank invested the nearly \$25 million dollars in clean energy funds we received from ratepayers through the electric distribution companies to mobilize over \$300 million dollars of investment in the state's green economy.

We would invite you to see our new online impact tool, we call MAYA, for Mapping Analysis of Your Area that shows you what investment in clean energy in your community results in, in terms of the economy, jobs, the environment, public health, and equity.

We would also note that PURA currently has an open docket that is addressing this important issue, as chair Gillett indicated earlier through docket number 14-0719, reopener number 6.

Raised Bill 6571 revisits the Green Bank's flagship program for commercial properties, C-PACE. Since 2013, 135 of Connecticut cities and towns have enabled the Green Bank and private investors to invest \$180 million dollars in over 330 projects for commercial, industrial, and nonprofit end-use customers, saving them an estimated \$300 million dollars over the life of the project through C-PACE.

The primary change in this Bill is to add new financeable categories to complement existing state climate strategies. These include zero-emission vehicle refueling infrastructure for electric vehicle charging and resiliency measures to harden properties against the changing climate.

For reasons of practicality that we can further explain if desired, both of these areas are exempted from the program's existing savings to investment ratio.

6571 also clarifies the standard of -- standards on which the savings-to-investment ratio is calculated, including associated savings apart from energy costs.

WILL GINN: Thirty seconds.

BRYAN GARCIA: [crosstalk] several changes we would consider technical or conforming. We support Raised Bill 6571.

The Green Bank can't express it enough by attracting more and more private investment into the infrastructure of our growing green economy. We will create jobs in our communities, help our growing businesses thrive, and improve the lives of our families.

By communicating to ratepayers, the impact their investment has on their economies of our local communities and the environment, they will better understand and continue to support the combined public benefits charge, and other clean energy policies of Connecticut. We'd be happy to take any questions that you might have. Thank you.

REP. ARCONTI (109TH): Thanks, Bryan.
Representative Steinberg.

REP. STEINBERG (136TH): Thank you, Mr. Chair. Good to see you, Bryan. A quick question. You mentioned that you're supporting the -- the desire for us to have a clearer and more transparent Bill. You've also mentioned that there is a PURA docket, and I've not had chance to read any testimony you might've sent in, in response to that docket. But do you feel that this Bill goes far enough? Have we yet achieved our goals of transparency and clarity on behalf of the consumers, or is there more we could do?

BRYAN GARCIA: I think the Bill provides a framework that would allow, or that could allow PURA, the Office of Consumer Counsel, and DEEP working with the utilities to establish additional information to ratepayers through their Bills.

One of the things that we all noticed this fall as we were hearing the hearings with regards to rate increases in the tropical storm Isaias. Hearings was, we all got a close-up blimps of the different charges on our Bill transmission, distribution, generation, as well as the non-bypassable FMCC charges, which is where a lot of the public policies that have been passed in support of clean energy and a number of other initiatives have been individually articulated.

And that's really happened through the PURA docket and what Chair Gillett was talking about earlier. This has been some of the most transparent elements I've seen, but all of this is held within a PURA docket with a number of, of documents, you know, within that website.

And as Chair Gillett alluded to, they're trying to bring more education to consumers to make it easier to understand what's in there.

So, I would say that the Bill as is currently written is -- is broad. It's a framework that can give guidance. But I really see the detail coming

out in the proceedings, that Chair Gillett is running on the specific Bill items.

Yeah, I guess the other thing I would add on that is, it's interesting when you see each individual public policy laid out in the non-bypassable FMCC charge. You get to see the cost to ratepayers.

What's important though is that, we also not only talk about the cost of those policies, but the benefits that are enduring from the result of investing those ratepayer resources.

So, you know, as I alluded to earlier, the MAYA website, if you go to it, you will actually get to see jobs, public health, environmental benefits, tax revenue generation, all the things that come from deploying these policies and putting them into action.

So, alongside those costs elements of the Bill, we should also be thinking about informing and educating ratepayers about the benefits that are enduring within our -- our green economy as well.

REP. STEINBERG (136TH): Thank you for that. And I did take the time while you were talking to go over to your website and check out the MAYA Program, which looks really fun. You can slice and dice the benefits in a lot of different ways. But I really do appreciate your point about focusing on the benefits.

I'm fairly certain that when many of these dockets are closed, the state will be looking at making significant investments in the grid, which will probably increase rates in some cases. But it's -- makes it even more critical to connect those investments with the actual, tangible benefits consumers can realize.

And I think your MAYA Program is -- is a good first step in acquainting citizens with the benefits they

may not even be aware that they're accruing. Thank you, Mr. Chair.

REP. ARCONTI (109TH): Thank you, Representative. Anybody else have questions for Bryan? Seeing none. Thanks, Bryan.

WILL GINN: Okay. Next up, we have Edyta Weighart, followed by Senator Hwang.

EDYTA WEIGHART: Hello everyone. My name is Edyta Weighart. I am a Connecticut resident, an IT professional with 20 years' experience -- 20 plus actually, getting into the 25 zone. And I am a mom of two children under the age of seven. And I currently oppose Bill HB 6442 as it is written right now.

I am not seeing any language in this Bill addressing safety to us as humans, our children, our environment, animals, insects, pollinators, specifically, and I don't hear any discussion of safety and the testimonies that have been given so far, and the questions that have been followed up. And I believe this is a mistake.

Just a little background about myself. I have a Master of Science degree in Internet Technology. My career has mainly focused in technology training. I also had quite a long stint in a regulatory compliance training, where I had the privilege of working with leaders in a variety of industries, including telecom, including information security.

And finally, a large portion of my time was actually dedicated to data analytics in the higher education realm. I'm sharing these details, so you understand that I -- coming from a technological background, a tech background, and I am certainly aware of the benefits of being connected to the vast stores of information that were once locked from us.

However, there are risks to some of these technologies that we are discussing. And my testimony will really more focus on the dangers associated with Wi-Fi radiofrequency radiation, especially as it pertains to children, which is something I obviously think about quite a bit, having two small kids, myself.

One little story I just want to share. You know, when Wi-Fi first became very popular and was being adopted in all the corporations, at that time I was really traveling the country, and I had been teaching at a fortune 100 company, and it was an executive training. So, I'm teaching the CEO, the CFO, the CTO, the chief technology officer. And I'm looking for the Wi-Fi connection, and there is none. And I'm kind of curious. And I asked the gentleman, you know, where -- I don't see any routers I can connect to. And -- and he -- he explains this entire section of the office is wired, and will remain wired just like we all used to. And I asked, "Why?" Because, of course, everything is convenience. And that's -- that's kind of how I was thinking at that time. And lo and behold, he mentions the word "safety."

And, you know, it was a very quick conversation, but I kind of filed it in the rolodex of my mind. Now, fast forward a decade-plus. And I'm having my first child, and I'm working. I'm surrounded by wi-fi technology. I'm surrounded by my smartphone, my colleague's smartphones.

REP. ARCONTI (109TH): Thirty seconds.

EDYTA WEIGHART: And I begin to think about what is -- what is -- what is -- what are the effects of these technologies on me, on my unborn child?

I have a paper here that I'm very interested in sharing called, "On the clear evidence of the risks to children from smartphone and Wi-Fi radio frequency radiation." It talks about the adoption of

these things in our home, schools, and our society, and the safety standards were based on a proven thermal and heating effects for adults and not children. And scientists in the life sciences have long been aware of the equally harmful non-thermal effects. However, physicists, engineers operating on the theory that non-ionizing RFR could not directly damage human DNA.

WILL GINN: I'm sorry. That's fine.

EDYTA WEIGHART: That's been refuted, as the point. But basically, thank you for listening. My main point is, I'm not an expert, but there's just so much wonderful research out there. And -- and it -- it really, I think, is -- it behooves us to look at how we can do this, but with safety. That it's really my main concern.

REP. ARCONTI (109TH): Thanks. If you'd like to share the paper with the Committee, you can, feel free to email it to our Clerk Will, and Will will -- can and will disperse it to Committee Members.

EDYTA WEIGHART: I sure will. Will has been wonderful, by the way. He's been really wonderful to deal with.

REP. ARCONTI (109TH): Great. Always appreciate hearing that. Thanks, Will. I don't see any questions. So thank you for --

EDYTA WEIGHART: Thank you so much for your time.

REP. ARCONTI (109TH): Oh, wait. Hold on. Representative -- Representative Mushinsky just threw her hand up.

EDYTA WEIGHART: Hello.

REP. MUSHINSKY (85TH): Hi. I did ask the question before you arrived.

EDYTA WEIGHART: Oh, I'm so sorry.

REP. MUSHINSKY (85TH): -- of Nick Simmons. And he is sending over all the health information he has from FCC, World Health Organization, and other sources. So we are getting all the information.

EDYTA WEIGHART: Okay. May I just add one more item? I shared a really amazing document from the physicians for Safe Tech in my -- in my written testimony, and it's really an amazing document. And it cites 152 highly reputable PURA-reviewed papers. And I'd love for you guys to really kind of dig into that a little bit also because you will see that the WHO and the FCC, unfortunately, aren't always up on -- I don't -- actually, I can't speak to what their motivations are. But I just noticed there might be a disconnect sometimes from our regulatory compliance bodies and science at large.

REP. MUSHINSKY (85TH): Okay. Well, we -- we will get the science. You know, the question has been asked, we will get the information. I just wanted you to know that we will be getting the information.

EDYTA WEIGHART: Thank you. You know what? I have small kids, like, constantly distracting me. So unfortunately I missed a couple of moments. I apologize.

REP. MUSHINSKY (85TH): Okay. Thank you.

EDYTA WEIGHART: Thank you.

REP. ARCONTI (109TH): All right. I see no further questions. Thank you for your testimony.

EDYTA WEIGHART: Thank you.

WILL GINN: Up next, there supposed to be Senator Hwang, but I do not see him. So we're going to move on to Donald Stein, followed by Susan Hill.

REP. ARCONTI (109TH): Okay. Well, yeah. Well, whenever the Senator does -- I think that Senator will try to join at some point today. You can get him in the -- in the loop whenever he -- he's able to make it.

WILL GINN: No problem.

DONALD STEIN: And now unmuted. I'm Don Stein, First Selectman of Barkhamsted. I'm also the Chairman of Northwest Hills Council of Governments. And I work with COST, CCM and I'm a board member of what's called Northwest ConneCT, which is a group of 25 towns in Northwest trying to improve the internet out here.

So I would like to thank Chairman Needleman, Arconti, Ranking Members, Formica and Ferraro for the opportunity to testify today in support of House Bill 6442.

All of these entities feel very strongly that the state needs universal, reliable, affordable, and particularly future-proof broadband network, as soon as possible to facilitate the continued working at home, telemedicine, eliminate the digital divide and remote education, to promote economic development.

And we -- we really look at this with the fact that broadband is basically a utility that we feel is on the same level as clean water, electricity, roads, sewer system, schools, and airports.

We talk a lot about the underserved regions of the town -- of the state, including, you know, the underserved in the cities. But I think most of us are aware that Northwest corner, as Representative Horn has talked about, and the Northeast corners are also significantly underserved.

We'd like to get action as soon as possible on improving broadband coverage and broadband speed so

that we can continue to attract new residents to keep our current residents here.

As we know, everybody has been depending heavily on reliable high-speed internet during the pandemic, but our expectation is that distance learning, virtual meetings, public hearings, telemedicine, work from home policies, will continue to be required of our residents. So, even as the pandemic is brought under control, we expect that many of these practices remain part of our culture in the state.

As I said, we support the full Bill, but there's three or four key provisions that we feel need some emphasis to help Connecticut continue to make strides forward.

First one, and I know it was discussed earlier, was the mapping of broadband availability Section 3, so that we can all better understand the areas that are unserved or underserved as the first step in providing a reliable, equitable access to broadband for all of our residents and businesses. This will obviously include both the heavily populated areas and our rural sections.

Section 20 requires PURA to adopt one-touch make-ready, and also to streamline the pole attachment process. We feel very strongly that by shortening the installation time, making the installation easier, that it will lower the installation costs, and that'll help many of the communities in Connecticut, along with the rural areas, to gain access to internet that they need.

WILL GINN: Thirty seconds.

DONALD STEIN: Okay. And again, streamlining the pole attaching process is critical. Along with that, municipal gain, there's some question about municipal gain and how the towns can utilize it. We would like to make sure that that section be revised

to delete the provisions in line 139 and 143 that says, "A municipality may sell it's right in their municipal gained with third party." Which we feel is an unnecessary set of terms.

And last, LOCET funding for municipal broadband networks. We were very happy to see that LOCET funding could be used, as stated in the Bill, for activities related to the planning and construction of a broadband network for municipal buildings. And we'd like to see that section revised to our LOCET funds to be used, to extend a municipal network to other non-municipal buildings in the municipality. Thank you very much for your time. And thank you for letting me testify today.

REP. ARCONTI (109TH): Thanks, Stein.
Representative Horn.

REP. HORN (64TH): Thank you, Mr. Chair. And thank you, Don, for -- for being with us today, and for -- for waiting out actually what is the beginning of a long day. And for all of your work throughout the Northwest corner really bringing people together. As you know, in a -- in a rural community, there are a lot of different towns and a lot of different interests and -- and you do a really great job listening to -- to all of them and helping them -- helping bring them together to -- to try to move this ball forward.

I wondered whether you could -- we have -- you've touched on a lot of the points that I certainly hear about. And one of them is mapping. And we had some conversation earlier today about how that will pan out. And -- and I know that you are familiar. We have a number -- a lot of broadband, you know, boards and committees throughout the Northwest corner, and Northwest ConneCT, which is a regional organization, which -- which you -- you also work with.

And so, I wondered whether you could talk about what -- what -- what resources we have that could help make sure that that mapping happens in a way that is, you know, granular and accurate?

DONALD STEIN: Yeah, I -- I can't really -- I forget the name of the exact organization that's doing it. But Northwest ConneCT, and some of the towns that are, you know, working to advance the state of their technology within their towns. And then also, the Northwest Economic Development Corporation has money that's available to also to enhance the broadband capability.

But there are companies that will allow you to map your home, your street, your area of the town. And it's -- I think it's more accurate than what you get from the FCC, or when they say, "Well, you're covered." But they -- you know, "You have 25 megabits or whatever."

So there are organizations available. I think some of them are doing it as a way to get their foot in the door for later activities. But there's -- there's a number of organizations that will work with communities, work with municipalities, to map their area. And ultimately, you can extend that to a regional basis.

And one of the problems we have in the rural part of the state, as most people know is -- there is private roads as long driveways there. When the housing density is sparse, you know, the big cable companies, the big providers tend to ignore those areas if they can.

REP. HORN (64TH): Thank you. I look forward to you being part of that conversation working with us. So, thanks again, Don.

DONALD STEIN: Thank you, Maria.

REP. ARCONTI (109TH): Thanks Don. I don't see any further questions. Thanks for your testimony.

WILL GINN: Next up is supposed to be Susan Hill, but it doesn't look like she's here. So it's going to be Eileen Ciampini, and followed by Gary Greenberg.

EILEEN CIAMPINI: Eileen, are you there?

REP. ARCONTI (109TH): I see her. I see her. I don't know if she's -- see a little window box. I don't see if -- I don't know if she's realized she's up.

WILL GINN: Okay.

REP. ARCONTI (109TH): Eileen? Why don't we move on to Gary Greenberg, and then if I leave pops on, we'll just circle back to her.

WILL GINN: Yes. Unfortunately, doesn't look like Mr. Greenberg is on either. So the actual, next person up is going to be Bob Knight.

BOB KNIGHT: Three seconds. So, organized. All right. Thank you. Everyone hear -- hear okay.

REP. ARCONTI (109TH): Yep.

BOB KNIGHT: Okay, great. So, to the Chairs, Ranking Members and distinguished Members of the Energy and Technology Committee, thank you for the opportunity to testify on House Bill 6442 AN ACT CONCERNING EQUITABLE ACCESS TO BROADBAND. =.

My name is Bob Knight. I'm both a broadband industry professional, and appearing today as a Commissioner of Economic & Community Development for town of Richfield. I serve as the co-Chair of the public officials group for the Fiber Broadband Association in Washington, representing about a

hundred member cities, towns, and counties across 25 States.

Needless to say, I can offer you a unique perspective on this important Bill, and more importantly, any context that you need during the Q and A portion.

I'm here today to voice support for House Bill 6442. This is a good Bill. It's actually one of the best well-thought-out broadband Bills that I've seen from any state. Connecticut's broadband service is inconsistent, expensive, and add capacity. And that's for those of us, lucky enough to have high-speed broadband service, where we live and work.

In Richfield, the community that I serve, there are two ISPs, Comcast and Frontier. Long-standing gentleman's agreements carve up the town, so they don't compete. The state broadband office has told us they consider any area of Connecticut served by frontier is having sub-broadband speeds. In Richfield, that equates to about 35% of the town.

Well, Comcast speeds are better. The service is inconsistent and is frequently deliberative speeds, far below what consumers have purchased. In fact, along our route, seven corridor businesses have complained to our commission that they have service interruptions once a week. Business internet goes down once a week. We have no one to scream at, zero recourse.

The Governor's Bill will finally give local government, a state agency, PURA, to turn to for help. Internet service interruptions, harm business, harm residents, and impedes economic development.

In Richfield, like our neighboring cities and towns, we've seen hundreds of complaints. WestCOG is hearing it, CCM is hearing it.

Connecticut needs, digital infrastructure built consumer protections, and a better range of pricing, so all can have access.

The proposed Bill is one of the best that I've seen. It's balanced, it's careful, and it appears to have input from many stakeholders. There's something in the Bill for everyone, even big telecom.

Briefly, here's what I'm supportive of; Mapping, it's the most important issue. Can't solve the problem without knowing where the fiber assets are.

PURA reinstating its authority over the broadband market; this would reintroduce consumer protections and oversight for a telecom industry that has not held up its end of the bargain in a light-touch regulatory environment.

In California, their PUC is doing the same thing. As an aside, the next FCC Chair will likely be working to reinstate FCC authority over the broadband market. We're not rolling back the clock here because it's still 2003 in parts of this state with no broadband access, and a lack of investment from ISPs.

WILL GINN: Thirty seconds.

BOB KNIGHT: As Senator -- As Senator Needleman said, municipal gain is critically important, and municipal broadband is encouraged. High-Speed broadband is expensive, so patient capital is needed for 20 or 30-year financial structures.

The telecom industry can't do it. Their investors want a three to five-year rate of return. Municipal revenue bonds can be a great tool, which is why you're seeing so many publicly-owned fiber networks sprouting up all over the country now. And they're successful. They're operating in the black, unlike the early days, like in Groton, municipal broadband has grown up. Many other states like California,

Arkansas, New York, and Utah are following in our footsteps.

To conclude, local governments can't be treated as adversaries by ISPs or by the state. So, I applaud members of this Committee for working in the public interest without alienating the ISPs or local governments or residents. I encourage members of the Energy and Technology Committee to support this important, well-thought-out, responsible, and balanced Bill in its entirety. I thank you for the opportunity to testify. And welcome any questions.

REP. ARCONTI (109TH): Thanks, Bob. Senator Haskell.

SENATOR HASKELL (26TH): Thanks so much, Mr. Chair. And Bob, it's great to see you. Thanks for all that you do in Richfield. I'm sure you've been watching the -- the hearing today. One thing that we hear occasionally is that, in terms of video and added internet speed. Legislation could drive up cost for consumers. Obviously, that's something that we all want to avoid, and something that I'm sensitive to, given the fact that it's one of the most frequent reasons people contact my Office these days. It's the high cost of their Bill.

So I'm wondering, what you think the impact on the cost to consumers might be, and just, if you had any perspective on that you might like to share?

BOB KNIGHT: Well, great to see you, Senator Haskell. Thank you. So, taking a step back, we saw what happened when Eversource didn't maintain its network when both Irene and Sandy hit our state. And it costs more for electric service now because they had to be regulated, because they have to upkeep the network.

So, I think we are going to see some cost increases, but I don't think it's going to be as big as -- as others are worrying about. Remember, the FCC is

reinstating its authority here, as part of the broadband market. So, they can help work with pricing. You know, PURA is going to be involved in the mix.

And, you know, if you have, you know, new competition in the marketplace, like if you do municipal broadband or if -- if you allow multiple providers in an area, that's going to help in terms of price and service. So I think you'll see it go up a little bit, but I don't think it's going to be a -- a huge leap, Senator.

SENATOR HASKELL (26TH): Well, that's really reassuring. Thank you so much, Bob, for that perspective. You know, you and I have spoken in the past about the -- the sort of historical moment that we're in, and how it -- it relates to rural electrification that happened a century ago. Do you want to say a few words about that?

BOB KNIGHT: Yeah, no, thank you. So, it's interesting, right? We're having the same conversation that just replaced the word "broadband" with "electricity" and "electric wires." And, you know, how do we electrify this -- this country?

And -- and, you know, you could almost take today's conversation and sort of scale it back and say, "Okay, so we're going to have -- we're going to light up our houses with lights." Well, that's very expensive to do so, you know, I could see just fine with, with just some candles and that's -- that's efficient today. We don't have a well-funded candle lobby out there, you know, lobbying for that.

But, you know, all -- all kidding aside, you know, fiber is going to be the infrastructure that -- that drives us forward. We have -- we've heard a lot of -- a lot of talk about what's the least expensive, you know, technology to deploy.

Ultimately, we need fiber in the ground or on the poles, it's going to power 5G, it's going to power satellite broadband cause the signal has to get from space, you know, down to earth. We don't know what the emerging technologies are going to be, you know, a few years from now. Nick Simmons was 100% correct. But we know that it's going to be powered by fiber.

Like we don't know in our kitchens, you know, what brand of refrigerator is going to be out there, but we know it's going to be powered by electricity, right? And so, you know, getting fiber out there, finding the incentives, working through different financial models, is going to be critically important.

SENATOR HASKELL (26TH): Thanks so much for your time and for your testimony. And thank you, Mr. Chair.

REP. ARCONTI (109TH): Thanks, Senator. I don't see any more questions. So, thank you, Bob, for your testimony.

BOB KNIGHT: Thank you very much, Representative.

WILL GINN: Okay. I -- it looks like Eileen is good to go. So we're going to have Eileen go next, followed by Kevin from the First Selectman.

REP. ARCONTI (109TH): You're up, Eileen.

EILEEN CIAMPINI: Okay, good afternoon. My name is Eileen Ciampini. I'm a Connecticut resident, a civil engineer, and a mother. I'm opposed to HB 6442. This Bill uses vague language and defines broadband to include radio, which essentially means wireless transmission.

Historically, broadband access to data has been provided via wires. The State of Connecticut already poses over 97% broadband coverage. The

intent of the Bill is -- the intent of the Bill mainly to provide more coverage or to provide an alternate way.

I believe the answer is the latter and would likely employ a network of densely spaced, small cell antennas nearby homes, businesses, and schools. This will essentially force upon us high levels of pulse-modulated microwave radiation 24 hours a day, 7 days a week, 365 days a year, without an option to opt-out or to turn it off.

This Bill also eliminates the ability of municipalities to regulate or place moratoriums to limit the deployment of such technologies.

Wireless radiation has been shown by tens of thousands of scientific studies to cause effects on human health and the environment. These affects include cancer, diabetes, neurodegenerative diseases, neurological impairments, attention deficit disorder, memory and learning problems, headaches, tinnitus, heart irregularities, damage to DNA, hormonal abnormalities in fertility, and birth defects.

Wireless radiation has been shown to disrupt navigation abilities and to decrease reproduction of birds and bees. Impairing pollinators will have a direct adverse upon our crops and our food supply.

If the goal is to provide faster data, then this can be done via fiber optic wires alone, providing data via fiber-optic wires is faster, safer, more reliable, and more energy-efficient than wireless data transmission.

Small cell networks actually rely upon fiber optic wires to bring the data to the small cells and then transform the signal to wireless form in order to reach the targets or devices. Rather than doing this, fiber can just be brought directly to the premises to provide broadband service. This has

been successfully implemented in locations, such as Chattanooga, Tennessee, and Longmont, Colorado.

Connecticut residents should not be subjected in voluntarily to constant unprecedented levels of pulse-modulated microwave radiation, for which there are no independent scientific studies to show that it will not cause biological harm.

WILL GINN: Thirty seconds.

EILEEN CIAMPINI: The FCC states safety limits for wireless radiation have not been updated since the 1990s. And in fact, there's an ongoing lawsuit filed by the children's health defense and environmental health trust, challenging the FCC to review and update their outdated guidelines to include other devices and infrastructure, besides cell phones, and to consider cumulative effects from product exposure to numerous devices.

This Bill is vague and does not clearly state what equipment will be installed, nor what levels of radiation will be emitted. This can and should be regulated. Please vote "no" to this Bill in its current form.

REP. ARCONTI (109TH): Thanks, Eileen.

EILEEN CIAMPINI: You're welcome.

REP. ARCONTI (109TH): Thanks for your testimony. I don't see any questions from Committee Members. So, thank you so much.

EILEEN CIAMPINI: Thank you.

WILL GINN: Next up is First Selectman Kevin from Lebanon, and then followed by Samantha Dynowski.

KEVIN CWIKLA: Yes, good afternoon. My name is Kevin Cwikla, and I'm Lebanon's First Selectman. I want to thank Senator Needleman and the Committee

for giving me the opportunity to express the town support of Bill 993.

This legislation, if enacted, would once again, allow municipalities to collect taxes on industrial size solar projects. Lebanon is no different, and like many communities in our state, does not have public sewer or water infrastructure, which can significantly -- significantly limit the potential for non-residential or industrial default.

In 2014, an out-of-state company applied to Lebanon's planning and zoning commission for approval to construct a 6.1-megawatt industrial-size solar facility on 25 acres of land zoned for industry. At that time, Lebanon had only two vacant industrial zone properties. The commission reviewed the application for an \$8 million dollars 6.1-megawatt industrial-size solar facility, and unanimously approved it, with the understanding that the town would be able to collect property taxes. This was based on the long-held principle that our municipalities can collect taxes on industrial projects, as well as the Connecticut general statutes regarding solar facilities.

The town understood that the statute was designed to exempt taxes for developers of small solar projects producing up to three megawatts and encourage alternative energy. However, because the town approved a 6.1-megawatt facility on a single parcel of land, it believed it was eligible to receive local tests -- taxes estimated at over a hundred thousand dollars.

Similar to the way, all communities in our state rely on taxes they receive from Eversource and other utilities. Shortly, after the town approved the 6.1 megawatt facility, the developer informed the town assessor, that based on their read of statutes, general state -- general -- Connecticut general state chapters, chapters 213 -- excuse me. 2013, 12-81, 57D that they would not owe the town property

taxes on the 25 acre of solar panels, as they had created multiple virtual net metering service agreements with other communities to bring them a low three-megawatt threshold for local taxation.

After consulting with the town attorney, we were informed of the apparent loophole in the statute with left -- which left us without immediate recourse.

WILL GINN: Thirty seconds.

KEVIN CWIKLA: The town does not believe the loophole was envisioned by the Committee or the generalist unbelief when it authorized the tax exemption for the small solar providers. While the town appreciates and supports the need for alternative energy sources, as evidenced by its approval of this project, it is dependent on local residential and industrial tax revenues in order to operate and meet the needs of the community. We strongly encourage your support of Bill 993. And thank you.

REP. ARCONTI (109TH): Thanks, Kevin. Thanks for your testimony. And I know you've been following this legislation over the past couple of sessions. And I know you -- you know, it's -- it's been the will of the Committee to try to clean that up.

I don't -- I don't see any hand raised. Waiting for one potentially. All right. Seeing none. Thanks for your testimony, Kevin.

KEVIN CWIKLA: Thank you, folks. Have a great day.

WILL GINN: Next up we have Samantha Dynowski, followed by Francis Pullaro.

SAMANTHA DYNOWSKI: Thank you, Representative Arconti, Senator Needleman, and Members of the Committee for the opportunity to testify today. My

name is Sam Dynowski and I'm the State Director of Sierra Club.

I'm here to support House Bill 6572, as a much-needed strategy to meet the decarbonization requirements of Connecticut's Global Warming Solution Act, our state's foundational climate policy.

Residential and commercial buildings account for 26% of all greenhouse gas emissions, that doesn't include the electricity use in buildings, which when added in vastly increases the percent of emissions that come from buildings.

Allowing municipalities to voluntarily adopt a stretch code is a very important step to encourage more energy efficiency buildings here in Connecticut.

As far as the stretch code itself, we respectfully suggest that Connecticut aim for a net-zero stretch code to achieve the steep greenhouse gas emission reductions that the Global Warming Solutions Act requires. And to extend it to building smaller than 40,000 square feet.

In addition to lower greenhouse gas emissions net-zero, buildings also have significant co-benefits. Health, they -- they make significantly less air pollution cause they are powered by renewable energy. And, in terms of indoor air, there have been a number of important studies in the last year about indoor air pollution from gas-fired furnaces, water heaters, and stoves. And the impact of that pollution on rates of respiratory illness, cardiovascular disease, and premature death.

Net-zero buildings are also more climate-resilient, and they're more cost-effective. With little or no additional first costs, net-zero buildings are less expensive to operate and cheaper to live and work in than standard buildings.

In some, Sierra Club urges your support to launch a voluntary stretch code option for Connecticut. And we respectfully suggest that Connecticut aim for a net-zero stretch code to meet our state's decarbonization goals. Thank you for consideration of our testimony.

REP. ARCONTI (109TH): Thank you, Samantha. Glad to see you. You got in earlier on the list today, not towards the end like last week.

SAMANTHA DYNOWSKI: Me too.

REP. ARCONTI (109TH): Seeing no questions. Thanks for testimony.

SAMANTHA DYNOWSKI: Thank you. Take care.

WILL GINN: Next up we have Francis Pullaro, followed by Donna Hamzy.

FRANCIS PULLARO: Good afternoon, Mr. Chairman, Members of the Committee. I'm Francis Pullaro, the Executive Director of RENEW Northeast. I'm here to testify in support of a Raised Bill 993, on the taxation of solar projects.

My membership doesn't typically weigh in on taxation or anything having to do with -- with small solar projects, but we do support this. We believe that one of the contributions that solar can make in Connecticut is to provide valuable tax revenue streams to communities, particularly rural communities that may not have a lot of other commercial opportunities to grow their tax base.

And one thing that we do support for this Bill would be, to provide some sort of a standardization on taxation for some of the small solar projects. And -- and perhaps those that are not just limited to virtual net metering projects, but also any type of smaller utility-scale solar project.

And, you might see that cross-region states like Rhode Island and Vermont, they actually set a uniform tax rate based on the capacity of the -- the solar plant. And that's part of their state law. And it's -- so it's sort of the uniform across each town. We think that could be really helpful to include that in this Bill.

And again, you know, some of my members are already operating large utility-scale wind and solar projects in Connecticut. They're not virtually net-metered, but they would -- you know, would make it easier for some of these smaller projects to have more certainty on -- on what their tax payments would be.

For the really large projects, I would also suggest some additions to this Bill. Some of our neighboring states like, New York and Massachusetts they're still preserving the -- the ability of local tax assessors to be able to assess and value these solar projects. But they have developed a sort of statewide guidance that can be of assistance to towns.

Again, it's not a mandate, but it just seeks to provide some kind of predictable method for each town and to be able to assess some of the larger solar and other renewable energy projects. So I'd be happy to, if you're interested, provide some of the statutory language in those other states. And with that, thank you for the opportunity to testify.

REP. ARCONTI (109TH): Thank you, Francis. I don't see any questions. Thank you for your testimony.

FRANCIS PULLARO: Thank you.

WILL GINN: Next up, we have Donna Hamzy, followed by Melissa Kops.

DONNA HAMZY: Good afternoon, Members of the Energy and Technology Committee, Chairman Needleman, Chairman Arconti, Vice Chairman Winfield, Vice Chairman Allie-Brennan, Ranking Members, Formica and Ferraro. Thank you for the opportunity to speak before you today on the Governor's Bill, House, Bill 6442 related to broadband equity and access.

CCM supports this Bill for the most part, and has overwhelming support for the intentions that this Bill provides related to broadband access and equity across the state.

We want to thank the Governor for his attention to this issue. And just want to highlight a few items that, over the past month, an internal working group at CCM has sort of uncovered it as part of the Bill and some suggestions related to those pieces of the Bill.

I did want to also mention, before I move into this, that we do support Don Stein's testimony earlier, and then also Bob Knight's testimony.

So first related to the mandated levels of service within Sections 18 and 19, we're proposing that we eliminate any references in the Bill related to specific bandwidth speeds, but instead concentrate on network performance. We don't believe that bandwidth should be written into statutes, but rather managed through regulation or oversight by an Office.

And in this case, we're just suggesting The Office of the State Broadband, we feel that this will eliminate the necessity to go back to the legislative process in order to change these requirements, and that the focus should really be on network connection.

Additionally, we are requesting that the Bill explicitly prohibit data and speed caps. We just think that there should be some real clarity around

the fact that these providers should not be able to place any caps on data or speed.

In Section 7 related to the LOCET funding. I know, Don brought this up. We just want to make sure or to ensure that these funds -- when a municipality, for example, either enters into a public, private partnership or wants to do these broadband networks themselves, that at least the funds can be used to connect all community buildings, and not just municipally-owned buildings.

In Section 6, as Don, again, alluded to, in lines 139 to 143, we would like to see that language deleted from the Bill. It is unclear to us what the word "sell" means. Obviously, as you all know, CGS 16-233 provides us the right on the poll within the municipal gain space for free.

And that being said, we really appreciate the opportunity, as municipalities, if necessary, to enter into public, private partnerships whereby the partner is considered or act as the municipality.

And finally, related to just generally the goals of the Bill, we really think that, per your work in 2015 related to the enactment of Public Act 15-5, which created and empowered the Office of the State Broadband within the Office of Consumer Counsel, that we should use this opportunity to embolden them and to support them in their continued work, to provide broadband across our state.

And through this centralized process, we believe that it would be -- this process to bring universal access will be more efficient and realistic, and that, running through one particular agency will make, not only the funding more efficient, but also just the oversight and potential deployment of this -- this broadband network.

And finally, we just want to highlight briefly that we do overwhelmingly --

WILL GINN: Thirty seconds.

DONNA HAMZY: -- we do overwhelmingly support the universal coverage mandate. The -- the goals for mapping, which of course, we need to understand. As Bob Knight alluded to, we need to understand where we are, and where we're going, and where we will be when we get there. And then, also the one-touch make-ready portions of the Bill to make -- what we see now, is a problem related to attachments and replacements to allow one particular vendor, whoever that will be, to be able to move all attachments aside from electric attachments on the pole, within the communications game.

Other than that, I don't have any further questions or -- I mean, excuse me, comments. So I'm happy to take questions from the Committee.

REP. ARCONTI (109TH): Representative Ackert.

REP. ACKERT (8TH): Thank you, Mr. Chair. And Donna, thank you for your testimony. One question I had brought up earlier too. And I've got, unfortunately, multiple zones -- multiple Zooms going at the same time here, so. But, it was -- was the idea of what percentage is -- is lacking in terms of the broadband -- you know, people -- who people going to access broadband.

And if that they would work with a group like yours, CCM to identify, rather than creating some, you know -- you know, long -- if they were going to try to do this -- this -- the mapping program, right? That we talk about with, who's not getting broadband, or who's got limited access, whatever it may be, how can they -- how can we -- we, you know, work together and use the resources that we have?

And I bring up Representative Horn's district out -- way out in a corner. She's got obviously some issues just because she's -- where she's located.

But that fact that, if we can just work together and say, "Okay, where are we lacking?" And let -- let -- let it not be, you know -- and then work with, you know, the providers, whatever it may be. So, have you had that dialogue with the administration as to how you can play a partner in that?

DONNA HAMZY: So we've -- we've -- we consistently have dialogue with the administration. It's specifically related to, not only the Bill, but of course, the many before you all this legislative session. But specifically related to broadband, we are in communication with the Office of the State Broadband, and you know, are always offering our membership and our services within our membership association to provide whatever resources we can. So, we stand ready to -- to provide any assistance to help to offset any potential costs or new costs that this deployment might present.

REP. ACKERT (8TH): And that -- and that's exactly what I was targeting at. You know, I know we had a --, and I hate to compare things. But we had a \$1.5 million dollar engineering Bill in the State of Connecticut at one time that said, "We want to have an engineering firm at \$1.5 million dollars, go and look at the reflectivity of the signs, you know, on the highway." So I'm going, "Just, you know, ask the drivers on the State of Connecticut rather than spend \$1.5 million dollars. Which signs can you see and not see?" You know, let's use this -- I mean, let's come use some common sense, is what my thought is.

So, you know, when I look at this -- in this case here is, why don't we find out by asking the people individually out there, "Are you getting, you know -- do you have access first and foremost, not if you are accessing it, but do you have access to a -- a proper broadband?" But that is kind of my correlation to the two. And I just scratched my head on that -- that last one on the -- on the science.

So I'm glad you're -- you're involved. And I -- and I appreciate all that you guys do, and the information you provide to us as legislators. So thank you. Thank you, Mr. Chair.

DONNA HAMZY: Thank you, Representative.

REP. ARCONTI (109TH): Representative Foster.

REP. FOSTER (57TH): Hi, I am so glad you're here. Thank you for sharing your perspective with us. As a Representative, Ackert was asking a question that reminded me that, I think some towns and boards of education are doing these exercises already, asking about folks barriers to internet access so they -- they could help them during this crisis where kids were having remote learning. Are you familiar with any places where that data is amalgamated?

DONNA HAMZY: I am not. But that's actually a really good point for me to -- to go back and -- and try to find those things. I mean, we -- we work with the Boards of Education. I have not heard what you were mentioning in terms of their work or research on access, but I am -- am intrigued, and we'll go back, and I'll get the information.

REP. FOSTER (57TH): Yeah, I served on the Ellington Board of Education before holding this Office and we -- when we went one to one Chromebook in the district, we knew that -- you know, for all intents and purposes, the Chromebook doesn't do very much without internet access, because of all it's -- it doesn't have internal software, it all relies on internet access.

And so, I think that there are districts that have done that. Now that wouldn't help -- you know, we know that there's barriers to seniors accessing internet that's proposed -- that posed barriers with vaccine enrollment appointment logging. So, it would only get a segment, an age group, of the

population, but it might be worthwhile for someone to -- to look into that data, so.

DONNA HAMZY: Thank you for that comment. I appreciate it.

REP. FOSTER (57TH): Yeah. Thank you for testifying today. That's all.

REP. ARCONTI (109TH): Thanks, Representative. I don't see any more questions for you, Donna. So thanks.

DONNA HAMZY: Thanks everyone.

WILL GINN: Next up we have Melissa Kops, followed by Lisa McCabe.

MELISSA KOPS: Hi thank you, Committee Co-Chairs, Senator Needleman, Representative Arconti, and distinguished Members of the Energy and Technology Committee for the opportunity to provide testimony on House Bill 6572, AN ACT CONCERNING THE ESTABLISHMENT OF ENERGY USE BUILDING STANDARDS FOR VOLUNTARY ADOPTION.

I'm an architect from New Haven, and was a member of the GC3 Working Group focused on climate mitigation in the building sector.

I'm a board member of the Connecticut Green Building Council. We are a nonprofit organization committed to accelerating the healthy, equitable, resilient, and sustainable transformation of Connecticut's built environment. We have a diverse membership of experts in the building industry. Please reference our written testimony for -- more detailed information.

The building sector is responsible for over 50% of the greenhouse gas emissions in our state when you include their electrical consumption. So, it is critical to address our built environment, to meet

our climate goals of reducing emissions by 45% by 2030, and 80% by 2050.

Incredibly, innovation has happened over the last decade. And early adopters have shown that the industry is ready to design to the aggressive levels of energy efficiency required to achieve our climate goals.

But unfortunately, even with the levels of incentives available, some are slow to adopt these newer energy-efficient practices, which is why policy is necessary. Our neighboring states of Massachusetts and New York already have stretch codes. And Massachusetts was the first in the nation with a stretch code that was adopted in 2009.

The proposed stretch code is -- in Connecticut is similar to Massachusetts's current stretch code, which they believe is already outdated. 82% of municipalities in Massachusetts have voluntarily adopted their stretch code.

Also, of note, is that since the stretch codes adoption in Massachusetts, economic development has only increased. And the mayor of Boston has aggressively advocated for their proposed zero-energy stretch code, that has passed their state Legislature with broad support.

Finally, any stretch code with a goal of reducing greenhouse gas emissions of our building stock should also address the embodied carbon of our building materials, which account for 11% of greenhouse gas emissions globally, and is projected to account for 75% of the total greenhouse gas emissions of a building currently constructed after 10 years of operation.

The buildings we design and construct now will be around in 2050, when we are aiming to achieve 80% greenhouse gas emission reductions. It will be an incredibly lucrative investment to incorporate

energy efficiency into what we build now to prevent costly retrofit later.

WILL GINN: Thirty seconds.

MELISSA KOPS: And will better position us to meet our climate targets. Thank you for this opportunity,

REP. ARCONTI (109TH): Thanks, Melissa.
Representative Steinberg.

REP. STEINBERG (136TH): Thank you, Mr. Chair. And Melissa, long time no see. Great talking with you. Getting back to the stretch codes. I just want to give you another second to help us understand what the benefits would be. You know, I -- we heard Bryan Garcia from the Green Bank testify today. They've created a new tool -- the MAYA tool to look at some of the benefits. And I encourage all my colleagues take a look at that. It's really cool.

But I thought you might be able to help us understand -- you know, what's a realistic goal for stretch codes? What do we really expect on a statewide basis?

MELISSA KOPS: Well, I personally think that - and you should refer to the testimony -- written testimony - that we can go to a zero-energy stretch code. Right now, we're aiming for 10% better than code. I think that there's a way to structure it so that we're aiming for the energy efficiency that's going to get us to our climate goals. It might not be a percentage better than code because, as we know, code changes and -- and it might become a little too restrictive, especially since we want to adopt some very energy efficient based codes.

But if we target energy, use intensities by project type, and then also include a percentage better than a code including renewables, so I think we should be looking at without renewables, and including

renewables cause we want to incentivize people to have onsite renewable energy.

REP. STEINBERG (136TH): Is there a standard way in which we measure the intensities you refer to?

MELISSA KOPS: Yeah. So, there's something in the building industry called Energy Use Intensity, and it measures the number of kilo BTU's per square foot per year of any building. And it's an easy way to compare buildings to each other. So, for instance, Eversource, with their incentive programs, is really targeting 25 EUI for really energy and -- really energy-efficient buildings. So it's an easy way to kind of create a target and say this, "We know that -- we know that technology can meet these levels. We know we can get there. And this is where we need to be if we want to be able to offset that amount of energy with renewable energy.

REP. STEINBERG (136TH): One last quick question, if I might, Mr. Chair. To what degree are municipal officials aware of this intensity code? And does it inform some of their decisions, particularly in TAMP plans to conservation and development?

MELISSA KOPS: Yeah, well, I've seen a lot of movement with towns that want to be able to incentivize Green Building that currently don't have those tools, so they've been using zoning ordinances to try to do it. So there are great examples also beyond Connecticut of -- of cities that have used their zoning ordinances to -- to incentivize Green Building.

But really, we think -- and there's a -- we should be trying to be more consistent over the state. So, energy codes are going to allow us to have consistent standards across towns. Whereas if individual towns create zoning ordinances, then it's going to vary by jurisdiction, and that makes it a little more difficult for industry. So that's why we encourage the use of energy codes to really

incentivize energy efficiency and building electrification.

REP. STEINBERG (136TH): Thank you for that answer. Thank you for your testimony. Thank you, Mr. Chair.

REP. ARCONTI (109TH): Thanks, Representative. Seeing no further questions. Thanks, Melissa.

WILL GINN: Next up, we're going to have Lisa McCabe, followed by Wayne Hileman.

LISA MCCABE: And afternoon Co-Chairs and Committee Members. Lisa McCabe, here on behalf of CTIA, the trade association for the wireless communications industry regarding House Bill 6442.

The majority of the provisions in this Bill impose onerous new broadband mandates on ISPs, and conflict with federal law if they are applied to wireless carriers.

CTIA opposes Section 5, Section 12, that mandates carriers pay regulatory fees, and section 15b mandating a state-specific refund policy. These sections constitute unlawful rate regulation of wireless carriers, which is preempted by Section 332(c)3 of the Communications Act.

CTIA also opposes Sections 8, 9, 10, 13, 11, 17, and 23, which seek to expand PURA's authority because they subject broadband internet access to public utility regulation. If these sections are applied to wireless carriers, they constitute regulation of entry, which is also preempted by Section 332(c)3.

CTIA opposes, Section 14 because the no device blocking requirements conflict with the FCCS restoring internet freedom order, which expressly eliminated the no blocking role and expressly preempted States from imposing requirements that the FCC had repealed.

In addition, CTIA opposes Section 3, as it contains broadband mapping efforts that are duplicative of federal mapping efforts.

CTIA supports Section 20 regarding the one-touch make-ready provisions. We thank the administration for including this section. Delays in the make-ready process have hampered wireless carriers' ability to deploy, and thus we support these provisions.

As stated a number of provisions in this Bill conflict with federal law, represent bad policy, and show a misunderstanding of how wireless networks work. We respectfully request that those provisions be struck and instead the Committee advanced provisions that encourage investment in wireless networks.

Finally, CTIA opposes Senate Bill 990 regarding data caps because, as applied to wireless carriers, it is preempted by federal law. Thank you.

REP. ARCONTI (109TH): Sounds like the wireless industry has done well-getting things preempted. Any questions from Committee Members? Representative Arora.

REP. ARORA (151ST): Thank you, Mr. Chair. One quick question. And thank you for your -- Ms. McCabe for your -- for you -- for your testimony and your -- and your thoughts. You know, the question here really revolves around finding a solution to the problem which we have, which is, there are many households which do not have access in today's day and age, or is it too slow. You know, from a wireless perspective, how do you solve the problem?

Because, you know, many of the times we have heard that these are hard to reach houses in terms of topography or in terms of, you know, how the wire goes. So, do you all have -- as an industry, is there any suggestion perhaps of a -- not a mandate,

but a program which could be considered to say, "Well, you know, folks which have -- houses which are hard to reach, can be reached obviously with -- through -- through some of the methodology." And have -- has any other state -- have you worked in any other state to -- to do so?

LISA MCCABE: I think, you know, answering this question of getting broadband to everyone is really a matter of using every technology that's available, whether it's wireless, wired, satellite, whatever. I mean, reaching those hard-to-get houses is -- is the crux of the issue. And I think there are a number of tools. And technology will continue to evolve, to hope, to try to meet those tough to reach areas.

REP. ARORA (151ST): Thank you. I was looking for a little better answer because that is a -- you know, the problem is real, and, you know, we are not the ones. Either we'll impose -- we as a -- as the government will impose something which may -- which will have unintended consequences. And so, we're looking forward to the industry to come forward, perhaps as a consortium, and say, "Listen, you know, between wireless and wired, we will have some way to figure it out. And perhaps we need, you know, X dollars or, you know, or something. Or maybe we'll -- we'll be able to contribute some by ratio of revenues and fix that problem."

So just a -- just a point that from the industry, you know, these problems are societal problems, not this government problems. And if you'd like a total free market, we can't leave 2% of our people, and say, "Well, tough luck." We're not going to let that happen.

So -- so, you know, we need your help, or we need -- we need your participation, and the wireless industry and the wired industry together to fix this problem. Thank you. Thank you, Mr. Chair. You may please respond if you want.

REP. ARCONTI (109TH): Lisa, you can -- Lisa, you can respond if you'd like.

LISA MCCABE: Thank you. I think, removing barriers to entry like the one-touch make-ready, and other provisions that make it easier and more cost-efficient to provide broadband access and get -- get wireless access out there to all is a great start as to trying to reach this goal.

REP. ARCONTI (109TH): Thank you. Representative Mushinsky.

REP. MUSHINSKY (85TH): Thank you, Mr. Chairman. If -- if we don't do the Bill, because you say we can't, then how do we reach the areas that are underserved? Follow-up to Representative Aurora's question. But -- but if -- if certain areas of the state are profitable for you guys, how -- how do we know it will be done?

LISA MCCABE: I think, looking at different ways to help get broadband access to be expanded, incentives, other ways in which you can try to do that. We're working to try to expand our networks every day, and to reach our consumers. We want to reach all the consumers.

So I think, you know, we're working toward that goal and continue to build out our networks, and any barriers that can be lowered to make access and build-out more affordable and easy is going to help us get toward that goal.

REP. MUSHINSKY (85TH): So do we -- so are you saying the government has to incentivize you to go to the end of the line and -- and serve people that are at the end of the line?

LISA MCCABE: That could be a possible -- that could be one option.

REP. MUSHINSKY (85TH): Okay. Thank you.

REP. ARCONTI (109TH): Someone [crosstalk] going on in the background. I know -- Steve, I know you had your hand up. So are you okay to go?

REP. MESKERS (150TH): I am, sorry, as I cut out of one meeting into another. I hope the -- the -- the last speaker -- heard Mary Mushinsky -- Representative Mushinsky well. I think that -- that's -- our fundamental question is, if you don't want state involvement, or there's a private-sector solution, and it's -- and there's a cost obstacle, then the question is, who's going to pay to get the connection done?

And so, I'm not suggesting that the state is going to force the private sector to pay for it. But if the state is going to find a solution that could use public monies, and the private sector says they have a better way to do it. People should take out their pens and tell us that, "You know, if there's a \$200 million dollars state-funded solution for connectivity, and there's a private-sector solution that might require a subsidy about \$150." And guess what? I think most of us will raise our hands. If you can tell us that we can have a system that functions and connects people that can -- in areas that you people are currently unwilling to cover because they're not economical.

But, we do have a commitment that, or the Governor has a commitment to get people connected. So, I think everyone needs to think outside the box about whether that's done purely as a public endeavor with public monies, or is it done with a public-private partnership? And how does that work? Once that we create a backbone, who has access to it? You know, how do we use it? Et cetera.

But there certainly will be creative solutions coming forward. And there certainly will be proposals and monies will be spent. So, I think --

I don't think Energy and Technology is -- is decided ideologically for the next ten years, where we want to spend if we're going to spend money on an -- on an -- on an -- on a broadband backbone.

And if the Governor is doing -- proposing something, and we're involved, both in this Committee, and as we sit in bonding revenue, finance, and General Assembly. If the private sector has counterproposals, we're not -- I don't think we're -- I think the message we're hearing all of our testimony is, people need connections. There is an inequity in -- in the learning process.

You heard Representative Horn, who has been a champion for her districts, and I've saluted for that. We have a connectivity issue. So we're working -- we've given everyone a fair amount of time to try to solve it. No one seems to be solving it. The Governor's stepping up with a proposal of how to solve it. I think we're open to hear other solution. And that would be my comment.

REP. ARCONTI (109TH): Thanks, Representative. Seeing no questions. Thanks, Lisa.

WILL GINN: Up next, we have Wayne Hileman, followed by Cheryl Wiener.

WAYNE HILEMAN: Well, thank you, everyone. I'm Wayne Heilman, and I'm the Chair of Northwest ConneCT, a nonprofit organization dedicated to bringing fiber-optic broadband service to the Northwest Hills.

And I thank you for allowing me to testify today in support of House Bill 6442, and in particular, their provisions enabling one-touch make-ready for the State of Connecticut.

The digital divide is hitting those of us here in the Northwest corner, particularly hard. And that hit can be summed up in one word "availability."

Our communities are virtually trapped in a digital nomad's land. We're not rural enough to qualify for rural broadband initiatives through the USDA or FCC, yet we're not suburban enough to attract the interest of private providers to deliver the true high-speed broadband access we so desperately need.

We have entire neighborhoods without sufficient access. Despite the arcane reports from incumbent providers to the contrary, a third of our homes in the Litchfield Hills lack access to reliable high-speed broadband.

Those with broadband have spotty service that has only grown worse with the increased demands from our virtual learning telemedicine and remote work. The existing infrastructure is overtaxed, and the problem is only getting worse.

We at Northwest ConneCT believe that the answer in our region is to build out last-mile fiber networks. This will require the dismantling of barriers to installing this critical infrastructure. For most of which, is allowing the implementation of one-touch make-ready for dark fiber providers and municipalities. I refer you to my written testimony on this matter, and our website northwest-connect.org for details.

In terms of infrastructure, fiber is really the only permanent answer. It is to this century, what electrical lines were to the previous century. Back then, those communities with access thrived, and those without withered. In terms of connectivity for us here in the Northwest Hills, no fiber means no future.

I urge you to support House Bill 6442, particularly the provisions regarding one-touch make-ready in Section 20 of the Bill.

Failure to act will further consigned those of us in the Northwest Hills to second-class digital status for the foreseeable future. That is unacceptable to us here at Northwest connect. And I trust that's unacceptable to you as well. I thank you for your time. And I'm available to answer any of your questions.

REP. ARCONTI (109TH): Thanks, Wayne. Thanks for your testimony. Representative Horn.

REP. HORN (64TH): Thank you, Mr. Chair. And thank you, Wayne, for being with us today. I'm -- part of my question, I might have directed at the -- the previous speaker, but I thought the points were made out. But which is that, Northwest ConneCT, in particular, has been at this for a while now. And -- and my predecessor, Roberta Willis, also submitted a testimony on this.

Including a lot of work with the incumbent providers to try to get this fulfilled, and it just hasn't happened. And so, making the point that we really do need legislation to -- to get us there over the hump. But we wish that it had been -- it happened on its own, but it has not.

So, I wonder whether you could comment on that, and also on efforts to try to get -- I know that Northwest ConneCT, in particular, has worked hard to try to bring the various communities together in order to work on cohesive policies and make the point of, you know, why access isn't happening, and -- and why it's not always the same reason.

WAYNE HILEMAN: Well, thank you, Representative Horn. I think it's careful on these -- we should be careful on these discussions to not try and fit the incumbent providers with black hats. I mean, there are -- there are legitimate economic issues for them and trying to provide service on our corner of the state. The return on investment is in -- in a word, "non-existent." There will have to be changes made

in our regulatory environment to allow those of us who are underserved or, in many cases unserved, to gain access to this critical infrastructure.

In the early days of Northwest ConneCT, we actually did reach out to the incumbent providers to try to partner with them. We initially had some fruitful discussions. They walked away from the table, and we have not really heard from them since. I can't speak to that. You would have to ask them as to why.

We have on a -- on a very local level engaged in activities on a town level to try to generate interest and action on this problem for our communities.

Because there is no regional entity that can grab the reins here, other than us, and for the Northwest Hills Council of Governments, we are encouraging a sort of decentralized approach. Many of our local communities are conducting surveys, doing their own research. We are making progress, but it is, as you know, a very challenging task.

I can appreciate many of the concerns that many Members of the Committee have in terms of access in terms of affordability. In our neck of the woods, it's -- like I said, in my testimony, it's really availability. It's -- you know, it does no good to send a child home with a Chromebook if there's no internet to connect to, not because they can't afford it, but because it doesn't exist on their street. That's -- that's a much more difficult problem to address. It's -- it can't be addressed simply with a subsidy.

So we're going to continue our efforts where -- you know, on a very small democratic scale, and -- and we'll keep you apprised as to our -- as our -- our progress.

REP. HORN (64TH): Thank you for that. And I also thank you for the first point you made. I also don't -- we got to be careful, there aren't any -- there aren't bad actors here. I don't think anyone has bad intent. They're just making -- as I think some other of my colleagues have mentioned, they're making economic calculations about what works for their business and what doesn't.

And -- and there are definitely challenges in our neck of the wood -- woods. There are different kinds of challenges, and -- and they are -- part of the problem is -- is getting an accurate estimate of what the cost actually is. And -- and I -- I, myself, somebody who -- you know, I live in a neighborhood that is served because it was one end of my street was, and the other end of my street was, but I was not. And I -- we were originally told that for \$50,000 dollars we could get that.

We have since been hooked up, but it took a long time. So, I take your point and I -- and I also want to note that the incumbents have, to your point, also -- they've -- a lot of them are -- I mean, I'm talking to a lot of them, and they're making upgrades, and they are increasing it, but it's not going to get us to everybody, and we really do need to reach everybody. And I thank you for your work, trying to achieve that.

WAYNE HILEMAN: Thank you.

REP. HORN (64TH): Thank you, Mr. Chair.

REP. ARCONTI (109TH): Representative Arora.

REP. ARORA (151ST): Thank you, Mr. Chair. I just wanted to ask some questions to learn a little more about the problem. We've heard about a 2% number, that is 2% households, perhaps, you know, 20,000 households in Connecticut, which have this problem.

So, you know, if we just specifically focus in the Northwest, where, you know, obviously you are very knowledgeable, what is the -- what is the size of this problem, both in terms of -- in terms of costs as well as numbers? Is it -- is it the -- can you -- can you kind of give us an order of magnitude? Is this -- do we need 50 million in investment?

Because we talking about investing in a system which will not have much cash flows, commiserate with the investment, right? If investment dollars were free, you know, just in a -- in a -- in a different world, then obviously somebody would build it. So, what kind of investment is needed which will get the -- get this additional infrastructure built for these homes, which are not, so as to say, lucrative or economically viable on their own. Would you have an idea on that? Or could you talk to that?

WAYNE HILEMAN: Thank you, Representative Arora. Let me answer the simple part first. The -- the Northwest corner has approximately 75,000 homes, about a third of that lacks, reliable high-speed internet access. So the 2% number is really a misnomer. That's a -- that's a holdover from very arcane reporting requirements for the FCC.

I think, as someone else said earlier in the day, if -- when -- when an incumbent provider provides their -- their coverage reports, if -- if a single home in a single census tract has access to their service, they can report the entire census tract is being fully served. That's how you get to 98% coverage. In fact, that number is significantly, significantly lower.

As to the overall cost for this, the -- it's hard to answer that without knowing what you define as the ultimate solution. If the ultimate solution is a fiber to the home network pass -- if the ultimate solution is fiber optic cables passing every single home on every single street in the Litchfield Hills, the net cost could be North of \$100 million dollars.

But you know, that -- that is our -- you know, that's obviously our dream scenario where every single person who lives in our neck of the woods has access to fiber to the home gigabit service.

If you want something South of that, obviously the cost is going to be lower. But again, what's the intent? Is the intent to just fill in the holes? Well, you know, we -- we can't even agree yet on what the holes are. So until we -- until we're, you know, dealing with the same data, and until we're dealing with the same goals, it's hard to give you a concrete number.

I'm sorry to hedge here, but that -- you know, first define for me what success is, and then I can do a better job of giving you a number.

REP. ARORA (151ST): No, success is basically when somebody was paid for the service and not -- and say, "You know, I -- I" -- you know, listen, you know -- everybody complains. I complain about my internet access too. And -- and I got all the time. There's YouTube. Now there's this. There's that. There's -- you know, we're always using more.

But, you know, I can' -- I'm not -- I'm not complaining to the extent that. There is access to my house. So my point is that, you know, if there's \$100 million dollars required to be invested, and the returns are \$2 million that we'll only have revenues of 2 million. Obviously, no business will do it because they won't work at 2%.

But, you know, hey, if -- if the government invest, you know, a part of it or -- or you know, then perhaps, you know, obviously we'll get us a lower return as well. So the idea of being a -- is it a public, private partnership model where we might be okay, as a state with, 1% rate of return, because it's serving a purpose of social policy, right? And then the way we -- we borrow at two and a half

percent, so if we can say, "Hey, listen, if we meet two and a half percent, and we get this job done, then we're not losing money we're not making money, but you know what, you know, let's just get it done."

So the question here is, that it's important if we can say, "Well, what is -- what is the investment required? What is the nature of the problem?" Cause otherwise we're going to regulate everyone, the entire three and a half million people there -- you know, maybe not 2%, but 95% of the system is working on a private-sector basis. And I -- that's the reason I asked the question. But thank you for attempting to answer the question. And -- and I appreciate your input. And any -- any other comment, please do make.

WAYNE HILEMAN: Sure, just briefly that -- I can't speak to the issues in other parts of the state. I'm focused on the Northwest corner. Our -- as I said before, our biggest issue is -- is availability. And it is apparent that the private providers cannot fix this problem. It's just -- it's simply too expensive for them. The return on investment is non-existent. And we're going to have to come up with some sort of public-private partnership to -- to make it work.

We have a plan at Northwest ConneCT. We've been working on this for a while. I would refer the Members of the Committee to our website, northwest-connect.org. There is more information there on the particular needs of the Northwest corner than you could ever read in one sitting.

REP. ARORA (151ST): Thank you. Thank you, Mr. Chair.

REP. ARCONTI (109TH): Seeing no further questions. Thank you, Wayne, for your testimony.

WAYNE HILEMAN: Thank you.

WILL GINN: Next up we're going to have Cheryl Wiener, followed by Sue Riedeman.

CHERYL WEINER: Hello.

REP. ARCONTI (109TH): Hi, Cheryl.

CHERYL WEINER: My name is Cheryl Wiener, and this is for the Chairs and the Members of the Energy and -- and Technology Committee. I have nothing against broadband. I am a music teacher retired from public school, but now teaching in parochial schools and teaching online. Everything in my house is wired, and that's out of concern for health.

And there were many situations when I was working in public school, when the school went from wired to -- to wireless, people were feeling the effects of it. And I don't think safety is discussed enough. So, I am here to say that I'm against this Bill.

And the thing about it is is that, if it's just a broadband connection that you're talking about, that's one thing, I'm all for that. But will it be partially Wi-Fi, 5G, and more cell towers near our homes and businesses? Will it be small cells with pulse microwave radiation, just yards from our homes?

If so, then who will be taken care of the liability insurance to address bodily injury, or for the resulting harms? I don't believe that one-touch make-ready philosophy supports the safety of the public. It takes away power from local elected officials, boards, and taxpayers to place moratoriums, caps, limits, and or restrictions.

In case you're not aware, the FCC is currently being sued by at least two organizations due to the lack of updated safety regulations to protect the public health. This negligence has been happening because the FCC's most recent safety regulations date back

to 1996 before the invention of the smartphone and the iPad.

Yes, it is important to have telecommunications during this pandemic because it is such a major public health problem. However, the fact that our FCC has not been protecting us for the better part of 25 years, has led to another major public health problem that has been, and is now being ignored.

Cell phone fees were actually supposed to be covered by broadband infrastructure over the past decades, but got hijacked by the cellular phone industry to build up wireless infrastructure. And as a result, there's only about 8% fiber-optic in Connecticut.

We should be applying the precautionary principle to the development and deployment of four or five G, or any G forthcoming as a philosophic lance to all innovations with the potential for causing harm. There are no safety studies to support the deployment of the grid that you are planning with Bill HB 6442. And there is no monitoring of equipment's radiation.

WILL GINN: Thirty seconds.

CHERYL WEINER: Please consider the safety of the residents of Connecticut. Thank you.

REP. ARCONTI (109TH): Thank you, Cheryl. I see no questions. Thank you for your testimony.

CHERYL WEINER: Thank you.

WILL GINN: Next up is going to be Sue Riedeman, followed by the Charter Communications group.

(UNIDENTIFIED PERSON): You are unmuted.

SUE RIEDEMAN: Yes. My name is Sue Riedeman. Mr. Chairman, Members of the Committee. I am testifying today on behalf of the Ecological Health

Organization. Eco is a statewide support and advocacy group for people with multiple chemical sensitivities. And a number of our members experienced severe adverse reactions to wireless radiation.

For those who are sensitive to RF radiation exposure can cause debilitating symptoms such as migraines, cardiac arrhythmias, neurological problems, insomnia, concentration and memory problems, vision problems, extreme weakness, fatigue, and more.

Well, we support the Bill's goal of increasing access to broadband. We oppose HB 6442, as this legislation will serve to expedite the process of bringing harmful four and five G cell antennas to our communities. Well, fiber optic wires will bring broadband to the street level. Small cell antennas are being installed on utility poles across the state to send broadband on via wireless radiation to the premises.

One-touch make-rate does not only involve wires, but it also involves installation of small cell antennas in neighborhoods across the state. That will blast dangerous levels of pulse modulators microwave radiation to our home, schools, hospitals, and businesses.

Installing four and five G small cell antennas at street level, every few houses, will leave vulnerable populations with literally nowhere to go.

Electrical sensitivity is recognized by the US Access Board as a protected disability. Small cell antennas installed in residential zones is an access barrier for the electrically sensitive to their homes and communities.

FCC's wireless radiation guidelines are not safe, as Cheryl had just mentioned. And their -- their regulations are from 1996, and they're currently being sued for not updating their regulations and

for admitting to look at thousands of studies that have been submitted to them.

We want to make you aware that this technology will harm, it will hurt people physically and financially. Some will be forced to leave their homes to escape harmful radiation. And many people's homes will lose significant value because majority of people don't want to buy a house with a cell antenna in front of it.

The solution for broadband internet is safely installed fiber optic cables to every business, home, and school. But there's an important note, the required inverters need to be properly shielded to ensure that dirty electricity is not carried in on the wiring because we've heard of problems in communities where that's happened.

I urge you to review the resources that I provided in my written testimony. And I especially encourage you to read the final report of the New Hampshire Commission study on environmental and health effects of 5G technology. They have come up with some excellent solutions or steps we can take to reduce exposure to wireless radiation in our communities. Thank you.

REP. ARCONTI (109TH): Thank you, Sue. Are there any questions for Sue from the Committee? Seeing none. Thanks.

WILL GINN: Next up is going to be the Charter Communications group, and that has Michael and Jennifer Young.

MICHAEL CHOWANIEC: Great, good afternoon.

REP. ARCONTI (109TH): Go ahead, Mike.

MICHAEL CHOWANIEC: Okay. Good afternoon Chairs, Needleman and Arconti, Vice Chairs Winfield, and Allie-Brennan, Ranking Members Formica and Ferraro,

and Honorable Members of the ENT Committee. My name is Mike Chowaniec. I am Vice President of State Government Affairs for Charter Communications. I'm joined online this afternoon by Jennifer Young, who many of you know is our Lead Government Affairs Representative here in Connecticut.

Charter appreciates this opportunity to offer comments today in opposition to House Bill 6442. We filed lengthy written testimony with your Committee, so I will do my best to briefly summarize our views at this time.

Charter shares the Governor's goal of promoting broadband access and affordability, but we respectfully believed this proposal would undermine our state's leadership position in broadband connectivity and lead to less, not more, opportunity for residents to receive high-quality broadband.

Charter understands and compliments the Governor for making broadband a priority. His administration has demonstrated through their work with private providers like Charter, a willingness to tackle problems and get results for our state's consumers.

Connecticut is on the right course. We should build on that success by finding ways to make industry a partner, and working collaboratively on targeted and measured solutions.

As many of you may know, Charter is a leading broadband and cable provider that serves more than 31 million customers in 41 states, including approximately 120,000 customers in 35 communities here in Connecticut.

I'm also pleased to say that Connecticut is our home. Charter maintains its national corporate headquarters in Stamford, and we recently deepened our commitment to this state by investing over \$500 million dollars in a new corporate headquarters complex that we are beginning to occupy this month.

We currently have 1700 employees in the state, and the number will likely grow significantly in the coming years.

As a service provider, our offerings and investment mirror that of other companies. Our network is 99% built out. We launched gig service throughout our footprint in 2018. And we offer -- we offer a base level speed of 200 Mbps to all of our customers. And we offer a low-cost service option called Spectrum Internet Assist.

These are very positive statistics, and they illustrate the widespread access to high-speed broadband services offered in our state.

As I noted earlier, we believe that House Bill 6442 threatens to reverse this trend by assuming a -- by Connecticut, assuming a new, and in our view, negative leadership role, which is becoming the first state to impose an antiquated and regressive regulatory structure, more applicable to monopoly utilities like electric providers than our state's competitive broadband providers.

Instead of moving forward with this Bill as currently drafted, we would respectfully suggest that the state focus its attention on more measured and targeted initiatives, that address important policy issues like broadband adoption.

Providing additional resources to increase awareness of current low-income service options, expanding upon the creative state-sponsored program, Governor Lamont initiated with the Everybody Learns program, and potentially even considering vouchers for low-income customers so they could control service provider options and assist them with service subscriptions.

Together, Charter believes, we can forge a better future for Connecticut, our customers, and our

employees. Thank you for this opportunity to appear before you today. And I'd be pleased to answer any questions.

REP. ARCONTI (109TH): Representative Allie-Brennan.

REP. ALLIE-BRENNAN (2ND): Thank you, Mr. Chair. Thank you, Mike. I represent Bethel, riding which is a new town. So it's somewhat pretty urban area with a dense population, and built out in terms of broadband. You know, reading your testimony and listening now, I'm just curious if you can tell me, if customer rates in my district will be impacted if your company and other ISP is for required to bring broadband to every resident, I guess, in your service area?

MICHAEL CHOWANIEC: So, Representative, I think from our perspective, and I think the statistics we put out at -- in my testimony is something that we're very comfortable with. We actually happened to not serve any of the cities in the state. So we're serving, you know, more suburban, you know, in small towns, like my community where I live, in Litchfield County.

And so, you know, our build-out is rather extensive, right? So -- so we are really looking at, you know, pockets of customers here and there, and neighborhood, perhaps a street, you know, where there might, as -- as others have stated today, really be economic impediments to making the math work, you know, for us to consider doing a build-out there.

I think our bigger concern than -- you know, I -- I would not downplay the direct implications of the build-out costs, but I think the underlying regulatory structure that's being contemplated here, you know, is very problematic.

You know, having listened to a lot of the Q and A, you know, over the course of the day today, there

were discussions about, you know, broadband adoption, there was discussions about mapping. You know, there were other, I think, worthwhile discussions, right, that the industry could kind of think through and be partners on.

The idea, I'll just say, of creating a whole other bureaucracy and -- and attempting to kind of reconstruct that, you know, in the coming months, from our perspective, you know, wouldn't be efficient, wouldn't be a good use of taxpayer dollars, and in all seriousness, would end up becoming an impediment to us making investments.

REP. ALLIE-BRENNAN (2ND): Okay. Thank you. I appreciate it.

MICHAEL CHOWANIEC: Thank you.

REP. ALLIE-BRENNAN (2ND): Thank you, Mr. Chair.

REP. ARCONTI (109TH): Representative.

REP. PERONE (137TH): Thank you, Mr. Chair. Sorry about -- took my eyes down, so I don't have the glare. Good to see Mr. Chowaniec. I just -- I appreciate your testimony. Thank you.

I'm curious -- you know, I think all of us want to see people who want access to broadband, get it. There's, you know, the -- the last mile is -- is an important concept. But also, everybody is -- is pretty much sequestered at home these days.

I think, if anything, the lockdown is -- has, you know, highlighted more with the -- the inadequacies, I suppose, of -- of the level of coverage out there.

But in looking at this Bill, I also see a lot of a -- an intensification of -- of a regulatory policy, an area that I'm not sure is -- I'm -- I'm struggling with it. I'm not sure if it's -- it's warranted or not.

You have -- I know some of you up here for quite a while. I know you're steeped in regulatory policy. So, you would probably be -- be the good person to ask about this. Looking at our energy regulatory policy and -- and looking at this -- I mean, how do you -- do you see any similarities in what's being proposed versus what we -- we have on --in electric utility policy?

And what I -- what I've been concerned about is, you know, maybe making some of those same missteps that have been made in -- in energy policy in an effort to try to bring broadband access to everybody. So I'm just wondering, if you can speak to that, and if I'm just barking up the wrong tree? Thank you.

MICHAEL CHOWANIEC: Yeah. Representative Perone. Thank you for the question. You know, I guess, I would answer that, you know, as follows. Having, again, listened to the hearing today, I don't think we're that far apart, you know, the industry and -- and -- and the Lamont Administration. I mean, we've worked on things together. And I think a lot of the goals that we've talked about today are things that we can partner on and -- and we can address.

There was an earlier question. I'm sorry, it's been a long day, and I've been trying to make notes as -- as we've been going through here. But, you know, certainly, you know, Representative, Arconti asked a question about one-touch make-ready, and some of the pole reform issues. You know, there is a whole workstream there from a policy perspective that from our -- from our view would have merit, right? Issues like, make-ready, pole attachment, timelines, one-touch make-ready. There is a whole body of policy there that PURA already plays in today that we could build upon, and we could leverage.

And the things that have been talked about in terms of pole attachment, being an impediment in terms of costs and time? Absolutely. Right? So -- so there's

a whole area where, you know, moving forward on some kind of an initiative makes sense.

There were other discussions. And I think we, as a service provider, are very sensitive to the discussions that have been had here today. And quite frankly, I manage in other states, including North of where I live in Massachusetts, where we've been very close partners with the Massachusetts Broadband Initiative, their MBI program.

Dave -- I know that folks have issues with some of the challenges that we have, you know, in Connecticut. I don't even want to talk to you about the challenges that they have just North of where I live in Massachusetts -- in Western Massachusetts. There are literally towns that we have partnered with the state, and have either built or are in the process of building, or they're trying to work with us to build where there is nothing, like literally nothing, no video service. And there has not been for an extended period of time.

And even, no matter what we do to accelerate the process, they are potentially several years out. Right? So, you know, I look to Massachusetts, you know, most recently in the context of Vermont, you know, they -- they were able to stand up, and it wasn't ideal, but they did their best. And I think we, as an industry, including Comcast, did our best to work with them.

There was a line extension program that they established there very quickly with -- with CARES Act dollars, where basically it ended up being some combination of a multi-party split, right? Where the state of Vermont stepped up leveraging federal dollars, private providers like Charter were able to step up.

And then, there was some kind of a copay arrangement, right? With individual customers, right? So there's -- there are a variety of

different initiatives that I think, you know, we can leverage from our experience in other states. And I think there's opportunities for partnerships here. I just don't think the overarching, you know, regulatory framework that's proposed here, makes any sense.

REP. PERONE (137TH): Thank you very much for your answer, Chowaniec.

REP. ARCONTI (109TH): Representative Piscopo.

REP. PISCOPO (76TH): Thank you, Mr. Chairman. Thank you, Mike. Good to see you.

MICHAEL CHOWANIEC: Good to see you, Representative.

REP. PISCOPO (76TH): Thank you for your testimony. I -- Representative Perone covered a lot of my -- where I -- where I was going with you, because -- even in the beginning, the Governor's people did admit that there was a problem with adoption. I mean, you could -- you could have the facility there, but it's -- it's -- the adoption there is where we run into trouble.

I mean, and you -- you expounded on that in the -- with the previous question. But I see this Bill -- maybe -- maybe you could provide us with -- and I'll -- and I'll review your written testimony. But maybe you could provide us with how we can trim some of the over regulatory text of this Bill, and help you actually hookup people, get -- getting people the wireless that they need, or the broad hookup as they need.

So I -- if you wanted to -- if you want to provide me with that? You know, I see this Bill is a little bit too heavy on the regulation and not actually getting the -- the intent of the Bill done, the underlying intent, and that is to hook people up.

MICHAEL CHOWANIEC: Yes. And represented Piscopo. I mean, I think -- and I think some of the mapping and data collection, you know, that's in the proposal, obviously makes sense. I think there -- there are some defects to the federal regime that people have mentioned. The one served all served, you know, dynamic with how census block service, you know, is -- is assessed.

The, you know, the federal government through the FCC is going to be changing some of their, you know, mapping approach. There was new funding authorized in December. I think we would just be sensitive too, if the state moves forward on new mapping or data collection, that they do their best to align with what the feds are doing, so that we don't have kind of additional inconsistencies, right, assuming that people are comfortable with the federal regime.

You know, there've been numbers thrown around today. And I was actually very pleased with -- with Mr. Simmons and others, you know, from the Lamont Administration, who testified earlier today. You know, because there's been, I think from our perspective, a mis-characterization of some of the numbers.

You know, these 20, 30 percent, you know, characterizations are really associated, Representative Piscopo, with what you suggested, which is issues like broadband adoption. Where access exists, but there are challenges in terms of affordability or, quite frankly, just generally awareness, right? And interest in terms of leveraging service that's already there. Right?

And then I think a smaller, you know, area or a much smaller number, which is actually associated with the access issue, right? And maybe that percent -- that one or 2% is -- is higher in places like Representative Horn's district. Right? Which is not too far away from where I live in Litchfield County. Right? Where, as others have said, there are

challenge -- there are economic challenges because of low population density, right?

So I think that -- that -- that -- that -- there's two different discussions, right? There's the broadband adoption discussion, which potentially contemplates a larger percentage, the 20 or 30 percentages that have been mentioned today. And then I think that infrastructure gap, you know, is - is much smaller.

And again, we're -- I mean, I can only speak for Charter. There are others who are going to speak for themselves today. But we're open based on our experience, like I said, in other states, to partner with the state and come up with incentive or funding mechanisms, right, that enable us to serve individual pockets of customers or individual customers, you know, where the economics otherwise don't work. Thank you.

REP. PISCOPO (76TH): Thank you. And -- and Mike, you mentioned quickly on your investments in Connecticut, are -- is that to improve those service your outreach to customers? Or -- where are you going to be located?

MICHAEL CHOWANIEC: So -- so Representative Piscopo, so this -- a long story here, so I will be very quick. Before I joined the company in 2012, you know, we relocated our headquarters to Stamford. And then we've gone through, you know, a series of relocations, we're now on Atlantic Street.

And then our senior management, which a lot of them live here in Connecticut, you know, was very pleased with the state. You know, CEO, Tom Rutledge is -- is actively involved with the Lamont Administration on economic development issues. Right?

And so, now we've kind of, you know, planted our roots here. And, you know, to the extent, folks are driving by the train station in Stamford on I-95,

those are our, you know, two new buildings. It's a smart growth initiative, right? Folks are going to be able to literally walk to the train platform to commute. So, we're very excited about it. Thank you.

REP. PISCOPO (76TH): Thank you again, Mike. And thank you, Mr. Chairman.

REP. ARCONTI (109TH): How do you bridge, Mike? How do you bridge the adoption gap? Right? For -- cause from what I'm hearing, you know, the adoption gap, it seems just to be another term for an affordability gap.

So, you know, you're against -- you -- you don't think the regulation proposed in this-- in this Bill is the way to go to solve that adoption/affordability angle. So, what's the industry doing? Cause, you know, broadband is becoming more and more a public need than it is, you know, a luxury. You know, people need it to work right now, you know, if you're lucky enough to be employed.

So what is the industry doing, I guess, in that regard, when it comes to affordability, if this proposal's not the answer and --? I'll stop. I'll leave it there.

MICHAEL CHOWANIEC: Yeah. You know, Representative, I think, you know, based on -- and obviously, we're happy to -- to work with you and the Committee on -- on particular language or -- or, you know, concepts that you guys will want to consider.

I think for us really, it's -- it's probably three prongs. The first being, you know, leveraging the programs that we already have. Right? Like with Spectrum Internet Assists, we do our best, right, to raise awareness about the availability of that offering. But in -- in many cases, it's -- it's

challenging for us to get, you know, customer's attention.

So to the extent that the state could quite frankly, you know, bring attention to that. I think there's value to that. I mean, our -- our Spectrum Internet Assist program, you know, is -- is priced out at \$1799, right? It's -- it's a relatively, you know, affordable price point for 30 by 5 service. Right? There's no data caps associated with it. We're not charging, you know, a modem fee. Right? So I think kind of packaging something around our existing initiatives make sense.

I think the initiative that the Lamont Administration instituted, you know, during the pandemic with -- and -- and maybe -- I don't know, statistically, you know, how successful it's been. You know, what the experience there is, Representative Arconti. But it would be helpful to, you know, learn from that.

And then, you know, I think, Mr. Burt Cohen earlier this morning talked about some of the federal dollars that are coming, including, you know, potentially the FCC's new program, right, where they might be, you know, providing subsidies to providers or to customers, you know, directly.

So I think some combination of that, Representative Arconti, is something that we'd obviously be, you know, happy to work with your Committee on.

REP. ARCONTI (109TH): Okay. So just to, I guess, unpack that. So what I've -- what I heard is, Legislature/state government partnering with incumbents to do a better job of communicating existing programs, and then utilizing potential fed dollars. Is that correct?

MICHAEL CHOWANIEC: I think -- I think -- some combination of that, I think, to us would make sense. Yes.

REP. ARCONTI (109TH): Okay. Representative Horn.

REP. HORN (64TH): Thank you, Mr. Chair. And thanks, Mr. Chowaniec. I'm really glad you guys are here. We need you as part of this conversation, in this effort, so. And I want to particularly -- I've had a lot of conversations in the Northwest corner about investments Charter has made to help people and to fix problems, and -- and it's been commendable. I mean, I really -- it's a good relationship, and I do think it's improving. However, it's not -- it hasn't solved the problem, and the conversation has been going on for a long time.

So, it is definitely --, and to Representative Arconti and many other's point, adoption is a big problem. And it does -- you know, it's basically an affordability problem. And so, anything I'm saying here does not take away from that. That is a huge issue that I'm also committed to. It happens not to be the major issue that I talk about because it really is an access issue.

And it -- and it -- it is cases like what I used to be. I was served by frontier at -- technically it was broadband, but it really was useless. It was basically dial-up. And -- and I still got considered "served" as did everybody on my street, even though it was not broadband, and we had no, there was no infrastructure serving us.

So it is a real challenge. And I -- and I also just want to point out, you know, we talked -- we also have been speaking a lot with communities just North of us in Massachusetts about -- and as you know, you know, you noted, they have significant challenges up there.

But one of their advantages is that, they are so drastically unserved, they qualify for federal money. We don't, because we're not -- we are the

crack -- we are the crack that, you know -- we fall into that crack between -- federal money focuses on rural broadband and really, really unserved areas, which parts of Massachusetts qualify for. And -- and my neighborhood does not, because two ends of the street will be served, but the whole middle section is not.

So -- and I -- you know, the mapping and one-touch make-ready, I am certainly committed to those that I think there're critical pieces of it, but only as they lead to a solution. So, I wonder what you could suggest for us. This has been, you know -- this is -- this is a big Bill that we're discussing today, because conversation's been going on for a long time in my neighborhood. And, how do we -- how would you suggest that we accelerate getting that infrastructure put in that's missing?

MICHAEL CHOWANIEC: You know, Representative Horn, the first thing I'll say in response to your comment is that, I think we should be fortunate that we are not Massachusetts. I do understand that, you know, kind of not being able to leverage those federal dollars is a challenge.

But, you know, just to put some of the numbers in perspective, you know, Massachusetts is roughly ten -- I'm sorry. Is roughly twice our size in terms of population. You know, by the FCC standards, you know, they have ten times as many, you know, unserved customers as we do. Right?

And we can kind of argue about, you know, if the FCC is capturing the numbers, right? But assuming that their methodology is even consistently wrong, right? Let's say, if they're consistently not accurate, right, the -- the level of their impact is obviously much more significant than ours.

I mean, I think, Representative Horn, I mean, it does -- there has to be like a package of considerations, right? So, you know, on the pole

issues, right, that becomes -- I mean, we charter are doing various -- including in Massachusetts, we're -- we're committing to do very significant rural build-out in the coming years, potentially around a million passings in -- in 24 states. And I'm part of some of the regulatory approvals associated with that.

It is a very daunting challenge. I've been involved in build-out in upstate New York, where we did a hundred passings, you know, in the span of four or five years.

Do not underestimate how much pole attachment issues are a consideration, right? And I'm not saying that you are. I'm just saying that that impediment, in terms of time and cost, they -- they have real implications to our operations people, right?

If -- if they think that something's going to take them 12 months instead of six, if they're not sure if the cost for replacing a pole is going to be \$1000 dollars or \$5,000 dollars, right, the math, you know, going to your point, in pockets of homes, can be dramatically different, right? So I think the pole attachment issues are -- are, I think important.

I think at some point, right, the question is going to be, if there is uneconomic build, you know, is the state of Connecticut in a position to assist with that, right? Because that's what Massachusetts has elected to do.

If there are new federal dollars, right, where are those federal dollars being directed? Because there are a variety of states where we Charter -- you know, they -- they stood up broadband grant programs very quickly in the context of the CARES Act dollars, right, that were released last year. And we participated in those programs in other states, right?

So we, Charter, are very interested and very willing, right, to work with you on developing programs. Where we obviously are going to need to make a commitment. It's not like we're going to push the cost, you know, onto you. It's going to have to be some kind of a shared commitment. But we're very open to working on those types of initiatives.

REP. HORN (64TH): Thank you. And, to be clear, I'm a hundred percent with you on one-touch make-ready as my colleagues know. So, thank you, Mr. Chair.

MICHAEL CHOWANIEC: Thank you, Representative.

REP. ARCONTI (109TH): Senator Needleman.

SENATOR NEEDLEMAN (33RD): I think, I'm all right. A lot of the questions were answered. I'm sorry, Mr. Chairman.

REP. ARCONTI (109TH): No problem. Thanks. Thanks, Mike. I don't think there are other hands up. So, thanks for your testimony.

MICHAEL CHOWANIEC: Thank you. Have a good afternoon. Appreciate your time.

REP. ARCONTI (109TH): You too.

WILL GINN: Okay. Next up is Gerry Keegan, followed by Doug Brake.

GERRY KEEGAN: Hello, Chairs and Members of the Committee. Gerry Keegan with CTIA, the trade association for the wireless communications industry, here in opposition to Sections 1, 2, and 4 of Senate Bill 4.

On section one, the wireless industry supports an open and free internet. To further, that goal CTAA and its member companies support a bipartisan federal legislative solution to enshrine open

internet principles, and deal with this issue once and for all.

We oppose, however, state legislation on net neutrality, as it's unnecessary, because strong consumer protections are in place today.

The federal trade commission, once again, has able authority to police broadband providers and their offerings, and take action against any provider whose actions are deceptive, unfair, or whose practices are anti-competitive.

In addition, the US Department of Justice can prosecute providers who try to adopt anti-competitive network management practices.

The state attorney general may also enforce consumer protection laws of general applicability against any provider who the AG thinks is acting in an anti-competitive manner, violating its terms of service, or not abiding by its agreements.

State by state regulation of mobile broadband service raises the prospect, that different laws will apply as the user moves between states. These problems multiply in the case of mobile broadband, as mobile broadband subject to the laws where users purchased service, where they are presently located, or even where the antenna transmitting the signal is located.

A patchwork of state laws is untenable. As the Federal Communications Commission will likely take action on this issue in the near term, we'd ask that Connecticut not fragment the regulatory framework for broadband providers by passing this Bill.

With regard to Section 2, the ISP privacy provisions, there is no gap in ISP privacy that needs to be filled. The FCC is empowered to monitor ISP privacy practices, and bring enforcement actions

against ISPs that are acting in unfair or deceptive manners.

Finally, on Section 4, wireless providers already provide appropriate explanations on consumer Bills related to consumer chargers, and make appropriate disclosures about data caps. For these reasons, we oppose sections 1, 2, and 4 of Senate Bill 4. Thank you for the opportunity to testify.

REP. ARCONTI (109TH): Is there any questions from the Committee? Seeing none. Thanks for your testimony.

WILL GINN: Next up is Doug Brake, followed by Michael.

DOUG BRAKE: Chairs, Needleman and Arconti, and Members of the Energy and Technology Committee, thank you for the opportunity to appear before you, in general opposition to House Bill 6442. My name is Doug Brake, and I'm the Director of Broadband and Spectrum Policy at the Information Technology and Innovation Foundation, recognized as the world's leading science and technology think tank.

For years, we have studied various broadband regulatory regimes and industry structures. Coming to the general assessment that the US model of private sector competition between owners of network infrastructure has worked remarkably well.

Compared to more heavily regulated broadband in European peer nations competition and light-touch regulation drives roughly double the level of investment in the United States.

The current broadband system has served Connecticut well. Recent measurements put its fixed broadband as tenth fastest in the country, just 10 megabits per second, shy of first place. And FCC's deployment estimates, which are actually fairly accurate put Connecticut among, most -- the most

proudly connected states, with 99.2% of its population having access to fixed networks at 25 megabits per second. A speed that is adequate for participating in the digital economy for the foreseeable future.

House Bill 6442 risks disrupting this success by taking a big step toward utility-style regulation. Heavy-handed efforts like build-out requirements, encouraging municipal broadband, or imposing restrictions on business practices, are not the right tools to achieve equitable adoption of digital technologies.

Unfortunately, a lot of broadband discussions, conflate internet access, as where internet infrastructure is actually available with internet adoption, right, the numbers which people choose to subscribe deserves.

That latter problem, internet adoption, is a much larger problem, especially today, when the pandemic has thrust digital tools to the forefront of everyone's socially distanced lives.

Adoption is a complicated social issue, not an infrastructure problem. Surveys indicate that those who go without broadband do so because of the combination of affordability issues, a perceived lack of relevance, or challenges around digital literacy.

We should not be attempting supply-side bank shots, trying to lower prices through actively promoting additional competition where networks already exist.

Redundant infrastructure will add costs to the system, fragment the market, stifle investment, discourage entry by dynamic new services like low orbit satellites, and potentially even drive prices up.

Policy makers should instead address affordability directly through subsidies targeted at low-income users, ideally through a flexible voucher system, coordinated with other social assistance programs.

WILL GINN: Thirty seconds.

DOUG BRAKE: It also needs to provide better community-based digital inclusion efforts to help provide digital literacy training and low-cost devices where they're needed most. These efforts will be far more effective in achieving the goal of universal broadband adoption.

In the interest of time, I'll stop there and look forward to any questions. Thank you.

REP. ARCONTI (109TH): Representative Piscopo.

REP. PISCOPO (76TH): Thank you. Thank you, Mr. Chairman. Thank you, Mr. Brake, for your testimony. I -- I hear a guy again. I think I can ask this to. Maybe not. The Senate Chair brought up a -- a very interesting question. I've been thinking about it ever since this weekend. I heard it on the radio about Elon Musk. Is that how you say his name? He came up with an alternative to -- to broadband in -- in effect -- it's kind of like a little dish. I guess, you put outside of your -- your house, and it would provide you with a wireless connection.

That, you know, if we invest millions of dollars in something that may be absolute three to five years from now, you know, that was his fear. And I know it's little expensive now, but like all things, it may come down in the near future. Have you looked into that? Or do you know about that?

DOUG BRAKE: Sure. Yes. Thank you, Representative Piscopo, for the question. Absolutely. The -- the Starlink program with Amazon also has a -- a competing similar service that they're working to

deploy. There are other companies that are interested in this space.

It's a -- it's a fascinating area where -- satellites, you know, previously were -- were in geosynchronous orbit, right? That are far enough away that they spend at the same speed of the earth. These are much lower in orbit. And so, you don't have nearly the same delay to get the -- the connection up to the satellite and back down to earth. And so it's a much more robust, higher performance broadband than the previous satellite broadband offerings.

And so, there is a lot of excitement around these technologies. And I do think that it's important that we calibrate, you know, our, our, you know, regulatory efforts, or rural broadband deployment efforts with the recognition that this is a dynamic and changing market.

At the same time, I think that when you are talking about those last couple percent in our country that are unconnected, I don't think it's a -- it's a -- a feasible option to just sort of say, you know, "We'll wait and see how this plays out." I think it makes sense to continue to -- to -- to work, to connect to as much of the -- of the nation that's, you know, reasonably possible.

That said, the costs for the last, you know, 1 or 2 percent of the most costly areas to serve, generally those areas that are still left unconnected. That's where costs really bulleted, right? We're talking about the most rural or, you know, most difficult terrain to serve.

And so, to my mind, you know, get to -- get to the 98%, maybe 99% of the country, and then -- and then the last percent or two most costly, I think that those satellite options that really make an awful lot of sense.

REP. PISCOPO (76TH): Thank you. Thank you, Mr. Chairman.

REP. ARCONTI (109TH): Thank you. Seeing no other questions. Thank you, Doug.

WILL GINN: Next up is going to be Michael, followed by Gabrielle Sellari.

MICHAEL CICCHETTI: Thank you, Will. Good afternoon, Senator Needleman, Representative Arconti, Senator Formica, and Representative Ferraro. My name is Michael Cicchetti, and I'm the Vice President for government affairs at Frontier.

Frontier, as you know, is the successor to SNET is -- was the traditional -- which was the traditional phone company in the state. And our headquarters are also located in the state in Norwalk.

I want to thank the Governor's Office for bringing this issue forward, and thank the -- thank the Committee Members for -- for addressing this issue.

I think, one thing we can all agree on is that -- that the COVID pandemic has -- has brought to the forefront, the importance of reliable internet. And -- and at no time before in our history have we needed the internet -- internet so much for just basic life functions such as work and school.

My testimony is pretty extensive in terms of the issues raised in this Bill. And I don't want to go through all that now, but I want to take a more global view, and take a step back.

You know, Connecticut actually is -- has a good new story. This has been discussed earlier in the day. Because of the billions of dollars that has been spent by various providers throughout the state, we are very well-connected. At least 98% of the population has access to 100 meg download speeds or more. Now, that's not to say that -- that -- that

2% is unimportant, and I -- I will circle back to that. But -- but to start, we do have a good start.

Additionally, our cities, our urban areas are very, well-served. They're a hundred percent covered, and they all have significant download speeds.

So, what are our challenges? We've got access challenges in limited areas. According to the Governor's people, about 2%, these are pretty much all in rural areas, a lot of it in the Northwest corner.

And then, we've got an adoption issue. And these are -- these are areas where folks are not subscribing to service, even though it's available. And if you look at the CCM D'Aleo report, it focused on those adoption issues. Approximately 23%, according to their numbers, folks aren't subscribing to the service, even though it may be available.

So, if you look at these two challenges, the adoption issue is much larger. You know, we're talking 2% versus 23%. However, there's nothing in this Bill that actually addresses the adoption issue. Not one section, not one subsection, not one sentence, talks about how do we get -- how do we address that adoption issue? All the Bill does is overregulate the internet, and increased costs to our customers.

WILL GINN: Thirty seconds.

MICHAEL CICHETTI: [crosstalk] 1930 style fully regulated monopoly electric legislation to try to regulate the internet, which is the most important, powerful dynamic invention in our lifetime.

So I know I only have a little bit of time. What are we going to do? One, how do we address the access issue, Universal Service Fund? We already have it on our books. Section 16 2470 establishes a Universal Service Fund Connecticut, for the purpose

of building out to those areas that are uneconomic for the providers to build to. It's already on -- it's already on the books. We can initiate it and use that immediately to start collecting funds, to build-out to those areas.

And two, on the adoption issue, let's follow the recommendations in the D'Aleo report, which said that education program partnering with community organizations, partnering with school -- partnering with schools, let's get the information out there that these -- the -- the internet service is available to people. And if it's -- if it's a financial issue, then let's work on that together.

But, you know, the question was raised earlier, is this Bill conflating access with adoption? I would posit that this Bill accomplishes -- accomplishes actually neither. It doesn't solve either problems. It's just 28 pages of over-regulation, which doesn't solve the problems that have been put forth.

So I know that was very quick. I tend to talk fast. I apologize. I'll stop there, and I'll be happy to answer any questions any of the Committee Members may have.

REP. ARCONTI (109TH): All right. Any questions for -- Representative Arora.

REP. ARORA (151ST): Yeah. Thank you, Mr. Chair. And thank you, Mr. Cicchetti, for -- for your testimony -- for testifying and for the -- your thoughts. You know, we do really -- I think it's -- the points you bring up are really important. I want you to expand -- to ask or explore them a little further if you don't -- if you will -- if you will help me.

Is that -- the adoption issue versus access issue and the data around that, right, you put out some numbers that it's 23% versus 2%, we heard from some others that 2% is just like a throw -- you know,

kind of a number put out by the industry. How do we get to the bottom of this as to number of households with a small standard deviation or margin of error that how many households have adoption issues, and how many households do not have access because of the infrastructure build-out is too expensive?

We need answer to that. You know, obviously, the industry must have invested on the zooming in Connecticut, you know, few tens of billions of dollars cumulatively. You know, these numbers should be available with some industry organization. Do you have access -- can you tell us some -- some -- some reliable source for that?

MICHAEL CICHETTI: So, I mean, from -- from a perspective -- if we look at it from a geographic perspective to start with; we know that urban areas are very well covered. We know that suburban areas are very well covered. We know that the challenges are in rural areas, primarily in the Northwest part of the state. That's not to ignore other rural areas where -- where there are access challenges. And -- and so I think we have a good idea of where those challenges are.

If we look at the adoption issue, if we -- if we look at the report that was put out by CCM and the D'Aleo foundation, we see that a lot of the adoption issues are located in the -- in those -- in the larger cities. And so -- and again, but the cities are well covered.

So, I think to address the adoption issue, it's a matter of one, getting the information out there that internet is available. There are a lot of programs offered for low-income internet, for low-cost internet. A lot of them are in -- by -- by frankly by our -- some of our competitors. Some of them are very good deals. But we just need to get that information out there so that folks are aware of the availability and can take advantage of it.

REP. ARORA (151ST): All right. So in terms of the hard-to-reach, you know, infrastructure challenges. You saying it's a small number, you know, let's say, you know, we heard from -- from someone else earlier, it was 25,000 customers or homes, I'm thinking, in Northwest Connecticut. And so, if that 25,000 homes need to be provided access because that's a clear cut problem, what is the order of magnitude of investment that's required to really get that done either by the industry or -- or, you know, if the state has to say, "Listen, Hey, we'll take subpar. You know, I don't know what the industry wants 9% or whatever. We'll take 2% on our investment." What is the number? Do we need \$20 million dollars? Do we need \$200 million dollars?

MICHAEL CICHETTI: So I -- I do not have that -- that specific number.

REP. ARORA (151ST): Order of magnitude?

MICHAEL CICHETTI: I mean, I would say, it's going to be in the -- it's clearly going to be in the tens of millions, because we're talking about low-density challenges and terrain challenges. And so -- but the issue is it's, you know, we -- and I can only speak for frontier in this part, but we would like to partner with the state again. The Connecticut has a Universal Service Fund program already in statute. This has been used in other states. It's used at the federal level to expand broadband service. There's no reason to reinvent the wheel here. We can follow the model that has already been created.

You know, Frontier, the latest round from the federal government, was -- was called RDOF, which was the rural development opportunity fund, where tens -- hundreds of millions of dollars was -- was awarded throughout the country through a competitive grant program. Frontier participated in that. Unfortunately, as Representative Horn pointed out, we don't qualify for a big chunk of that money.

We -- Frontier was awarded around \$400,000 dollars from RDOF for Connecticut specifically, but that \$400,000 is awarded out over -- over a 10-year period. So it's really -- not enough to really make a difference. But in West Virginia, we were -- we were awarded \$30 million dollars. But to -- we can do this -- a similar type of program here with -- with a statutory provision that's already in place. We just need to -- we just need to put it into place. I'm sorry, [crosstalk]

REP. ARORA (151ST): The problem with the Universal Service Fund is basically -- it's perennial. What happens is, that if this is a 20 million and one-time investment, I think a lot of members in this Committee could basically say -- and it returns 2%, which is more or less in line with our debt. That's one thing.

I don't even see there is any risk for us, if we serve a good public policy purpose and -- and get a perennial 2% return on investment. Whereas, if you say, "Create a Universal Service Fund." I'll tell you, that's going to be here. Even when I do not exist on this earth, that will still be collecting Universal Service Fund.

So, you know, these -- these small surcharges have proven -- have a history of outlasting the initial -- the initial objective. And they end up being taxes on the long-term on -- and on the most -- and are very harmful to the most -- what I call very regressive taxes.

So instead of a Universal Service Fund, if we could be if -- if the industry could tell us, "Listen, this is a \$50 million investment problem. It doesn't make money because, in this, \$50 million will make zero. You know, you need to help us invest or make 1 or 2 percent." Then that frames the problem very well for us, you know. And -- and if

it's a \$5 Billion problem, or if it's a \$50,000 problem, that also frames it for us very well.

So, you know, the option problem you identified very well. We're going to -- we need to do more on that. But you know, the infrastructure problem needs to be defined better for us as legislators, so that we have the -- we can advocate for the right answer. Thank you. Please feel free to comment. And -- and that's -- that's my questions.

MICHAEL CICHETTI: Thank you for that. And I do appreciate your -- your comments. And just quickly, I'm not -- I'm not saying the Universal Service Fund is the end all be all. It's just one option; one arrow we have in our quiver to look at it. If -- if the state wanted to put the money all upfront, and run a competitive grant program that was open to -- to providers, you know, I'm sure we can work on that as well.

We're happy to partner with -- with the Governor's Office. We're happy to partner with -- with the Committee and the Legislature as a whole, to come up with these solutions. You know, I think it's clear that on -- you know, the economics -- as the gentlemen from Northwest ConneCT pointed out, the economics just simply don't work without some sort of -- of funding coming to offset those -- those costs to reach those very hard to -- hard to reach areas.

REP. ARORA (151ST): You know, I didn't say, a grant, I said, we'd just make 2% lower rate of return. Just having fun. [laughs] [crosstalk]

MICHAEL CICHETTI: There's a whole plethora of options out there, we can -- we can talk about them all.

REP. ARORA (151ST): Thank you.

REP. ARCONTI (109TH): No other questions. Thanks, Michael.

MICHAEL CICCETTI: Thank you.

WILL GINN: Gabrielle was supposed to be up next, but does not look like she's available. So, we're going to go with Joshua Broder next, followed by Julie Flood.

JOSHUA BRODER: Hi. Thank you. Chairman Needleman, Chairman Arconti, Ranking Member Formica, Ranking Member Ferraro, distinguished Members of the Energy and Technology Committee, thank you for the opportunity to testify today on Governor's Bill 6442, AN ACT CONCERNING EQUITABLE ACCESS TO BROADBAND. Tilson, my company, supports the proposal to implement one-touch make-ready in Connecticut.

My name is Joshua Broder, and I thank you for the opportunity to appear before the Committee. I'm the CEO of Tilson, which is on a mission to build America's information infrastructure. We do that as consultants and design-builders. We help advise on policy development and broadband deployment, and build network for government clients, cellular carriers, internet service providers, and utilities, grid monitorizations largely network deployment.

As a leading network design-build and operating firm, Tilson builds high-performing technology project teams, and we work on impactful projects nationwide. So in short, we build broadband all over the country, including in Connecticut, where we have a large office in East Hartford that employs several dozen people building fiber and wireless networks around the state.

We've deployed hundreds of miles of fiber and dozens of wireless sites in the last year in Connecticut. We also have a public utility affiliate that

develops multi-carrier infrastructure around the state.

I've reviewed the Governor's Bill, and I'm here today to voice my support for the one-touch make-ready provision, which is an important regulatory tool that can significantly speed broadband deployment in Connecticut.

Personally, I've been working in broadband since 2002, where I started my network career in the army deploying communication networks in Afghanistan and other parts of the world. And I'm sorry to report that deploying broadband in Connecticut can be more challenging than deploying networks in Afghanistan, and other states that we work in throughout the country because of the lack of make-ready timeliness in areas served by poles, and the cost of street opening and restoration in areas without holes, which have some of the highest street opening costs in the country.

While I'm here to provide our view on one-touch make-ready, I do look forward to your questions and offer my experience generally, an expertise to the Committee both now, and as a resource after the hearing as a phone a friend.

We are enthusiastic about the Bill's proposal to have PURA develop and implement one-touch make-ready. One-touch make-ready establishes a one-stop process for preparing utility poles for new broadband infrastructure, a process referred to as generally generically make-ready, where each attacher must move its own wires to make room for a new attachment. And sometimes new poles must be placed.

Unfortunately, Connecticut has one of the slowest processes in the country for completing that make-ready process. One-touch make-ready has been implemented in many states already, and provides a much greater level of certainty for companies like

Tilson and its customers as to when the make-ready will occur and how much it will cost.

Delay in the construction industry is directly related to the commercial viability of a project is having crews standing out for weeks, months, or even years for approval to attach to the poles, and deploying the network creates enormous costs as well as great customer frustration.

WILL GINN: Thirty seconds.

JOSHUA BRODER: Thus, Tilson views one-touch make-ready as one of the greatest administrative actions to inset faster broadband deployment.

I would note I -- I asked one of my team members just before this call, how we were situated in Connecticut with make-ready timeliness. We've applied for 13,000 pole attachments since March of 2019, so two years. And we've only received less than 25% of those licenses to date, and the majority of opportunities to attach our cell temporarily. It's really just a untenable situation. Thanks. I'll give the rest of my time, and I'll be happy to answer questions.

REP. ARCONTI (109TH): Is there any questions for Josh? Representative Arora.

REP. ARORA (151ST): I'll keep it really short. Do you work in Northwest Connecticut? And is it -- would this -- is this a big problem there as well?

JOSHUA BRODER: We work statewide, and this is uniformly a problem across the state. We have unique challenges in urban areas of Connecticut where -- where poles don't exist, and the underground costs are quite high. I will point out that some of those areas are desperately underserved, or have other access issues. And of course, in rural areas of Connecticut where

predominantly fibers attach to poles, we find this problem to be uniform and consistently bad.

REP. ARORA (151ST): And what would be the cost of -- who loses? You know, sometimes, you know, it's easy to kind of figure that out. Who loses? Is the -- is the utility that doesn't really want to do it? Who loses in this situation? Perhaps it's a very obvious question, but, you know -- yeah.

JOSHUA BRODER: So, the actual costs on a trial basis are born by the attacher, right? So, theoretically, there should be a cost recovery process, and there should be no gap for the pole owner. The challenges we face are -- are primarily with incumbent telephone companies.

REP. ARORA (151ST): Incumbent telephone? Not -- not -- not utility, not the power company, we're talking about telephone companies.

JOSHUA BRODER: Correct.

REP. ARORA (151ST): Okay. Thank you very much for your information. And thank you, Mr. Chair.

REP. ARCONTI (109TH): Thank you. Seeing no other questions. Thanks, Josh, for your testimony.

JOSHUA BRODER: Thank you.

WILL GINN: Next up is Julie Flood, followed by Jessica.

JULIE FLOOD: Good afternoon, and thank you, Committee, for your time. I am a CT resident, an advocate, a mother, and a small business owner. I oppose HB 6442, as it stands, for a few reasons. One, if Northwest ConneCT is willing to get service where it is lacking, then great. Let's see that map, confirm those numbers, and place more of that fiber.

These 28 pages are about much more. The intent seems to be, to expand, to upgrade a massive rollout. And in that, it lacks mentioned a thorough and up-to-date safety testing.

What I heard thus far, is investment advancement, tech advancement, competition. We must include safety studies on this project. Also, opt-out options to your consumers, those who do not want to be a part of this impending grid.

The increase of small cell antennas attached to the fiber laid throughout our towns, at the base of our driveways, and in neighborhoods. Opt-out options must be made available to include smart meters placed on our structures. This upgrade is taking place now, and consumers have no option to refute these Wi-Fi attachments.

Communication to communication meters emitting constant Wi-Fi into our homes. Where are the affordable options for those wanting fiber to the source, fiber to the premise, for those of us who choose to hardwire our homes wanting no Wi-Fi on or around our property? For those of us who have left the city because small cell antennas were placed on our building? Those, like myself, who acknowledge and understand the harm caused by microwave radiation and constant Wi-Fi? These kinds of additions, small cell antennas, every 300 to 600 feet to accommodate this high-speed grid.

Also, the acknowledgment that this Bill's in-game isn't merely to support those in need. It's really to usher in this advanced technology, the implementation of 5G and beyond.

Stated in some of the testimony regarding gaming, hologram, smart meter, smart cars, and tracking. This is all very exciting, I suppose, for what? The elite? The 5% of our society? This Bill is putting the cart before the horse, by entertaining this

legislation before having a full appreciation of the facts on plants, animals, insects, human life.

Let us not forget, the US Government's human exposure guidelines for wireless radiation haven't been updated since 1996. Those of you with tech backgrounds who insist on discounting, anything, biological regarding harm, those who consider themselves environmentalist yet won't study -- take studies on EMS and RF seriously.

WILL GINN: Thirty seconds.

JULIE FLOOD: So called small cell antennas, will admit a constant stream of radiofrequency microwave radiation, wireless radiation 24/7, until turned off.

I find it alarming that with this kind of proposed advancements made on our electrical grid, there are no updated safety study to support the deployment. There is no monitoring of equipment's radiation.

Thousands of published peer-reviewed studies prove that exposures to wireless radiation is harmless -- harmful. Harmful. We need less radiation, not more.

REP. ARCONTI (109TH): Thank you, Julie.

JULIE FLOOD: Thank you.

REP. ARCONTI (109TH): Are there any questions from the Committee Members?

JULIE FLOOD: No questions.

REP. ARCONTI (109TH): Seeing none. Thank you for your time.

JULIE FLOOD: Yep.

WILL GINN: Next up, we have Tim Wilkerson, followed by Ms. Christie. Tim, are you there?

TIM WILKERSON: My apologies. Can you hear me, Mr. Chairman?

REP. ARCONTI (109TH): Yup, you're good, Tim.

TIM WILKERSON: Thank you. Good afternoon, Co-Chairs and esteemed Members of the Committee. My name is Tim Wilkerson. I am president of the New England Cable and Telecommunications Association, or NECTA. We represent Atlantic Broadband, Charter Communications, Comcast, and Cox Communications. And today, our testimony also includes investments in products from LTC USA.

The deployment of high-speed broadband infrastructure across Connecticut is the envy of the other 49 states. According to 2019 FCC data, as you will have heard repeatedly, Connecticut is the top-ranked state for high-speed broadband deployment at 99.2%.

As numerous independent studies have confirmed that ranking. Connecticut is not only the state with the most broadband infrastructure, but also has a competitive landscape providing consumers with choice of world-class services. Where over the vast majority of those communities represented by the 99%, need a broadband adoption solution, not a broadband infrastructure plan.

In 28 pages, HB 6442 never mentioned adoption. We strongly suggest that Connecticut broadband policy should be focused with laser-beam precision on adoption of internet service running outside most Connecticut resident's front door. This policy approach will help bring digital equity to the state's residents.

Our internet networks, while passing more than 1 million Connecticut homes, are delivered through

more than 8,000 miles of fiber optic networks and reach speeds exceeding 1 gigabit for residential customers, and up to 10 gigabits or 10G service for Connecticut businesses.

These nearly ubiquitous fiber-optic rich networks, representing a lasting commitment -- represent a lasting commitment by providers to invest in Connecticut. But to maintain, upgrade and secure these networks, providers must have the flexibility to make investments to preserve and enhance the quality of service they provide to meet consumer demand.

Departing from Connecticut's proven light-touch regulatory approach, which this Bill does, in fundamental ways, could jeopardize a provider's ability to do so. The most significant connectivity challenge, equity -- equity challenge, Connecticut is not infrastructure, but removing the remaining barriers that prevent residents who have access to the internet, but have chosen not to adopt or subscribe to that service.

Our members work tirelessly through public, private partnerships, like Governor Lamont's Everybody Learns initiative, and expanding our existing low cost internet adoption programs for families facing financial, cultural, digital literacy, or other complex insecurities prohibiting them from having high-speed broadband.

As the primary digital divide challenge in the state is -- is not access to the internet, but adoption. This Bill's focus on regulating broadband is misplaced and counterproductive to addressing remaining broadband adoption challenges.

This Bill would raise costs on broadband, chill investment and divert vital public and private resources, that could otherwise be used to address adoption.

The Bill would have a detrimental effect, undermining incentives that have made Connecticut a magnet for jobs -- for broadband-related jobs, investment, access, and performance. In addition to raising a host of legal issues, a state broadband regulation of this kind, is preempted by federal law.

WILL GINN: Thirty seconds.

TIM WILKERSON: There were several questions earlier asking if this Bill would increase costs on our existing customers. And to clarify, the answer is, most definitely yes. As drafted, this Bill would prevent cost recovery on new customers, so the industry will be forced to recover those costs on existing customers. Moreover, the Bill is designed to mostly benefit the customers discussed earlier in the 1%, but not the vast majority of existing customers, the 99%.

Please note, there are proven innovative public, private partnerships for the unserved, 1% that we've mentioned before, like the Massachusetts Broadband Institute's Last Mile program, which was mentioned during my electronics testimony.

However, broadband adoption programs -- broadband adoption focus policies, like the FCC's Emergency Broadband Benefit Plan, and state programs contemplated in Massachusetts and Indiana, create innovative public, private partnerships to provide broadband to the vast majority of remaining Connecticut's residents.

Because of these reasons, we respectfully oppose HB 6442. Additionally, we have submitted lengthy testimony on Senate Bills 4 and 990. I'm happy to answer any questions straining those Bills as well.

REP. ARCONTI (109TH): Just a quick question on adoption, Tim. Cause that seems to be the recurring theme among testimony from the industry today.

You know, we keep hearing about all the great, you know, programs that the industry offers, but people don't know about it. So what -- you know, I guess what I haven't heard enough of today is, what exactly the industry's doing to get that educate -- you know, outside of the public partnership you guys have with the Lamont Administration in the past year -- up until this past year, you know, what's been done to try to solve this adoption issue, and what's the industry going to do going forward?

TIM WILKERSON: So, I will -- I will first reference Comcast Internet Essentials program, which has literally been around for the 10 years. So, predated the pandemic, like most -- almost all of our other low-cost broadband plans have.

All of our companies work with a vast majority -- a vast number of -- of local organizations like the YMCA, other groups like that they're on the ground. They also partner with the state superintendents to be able to get these packets into back to school; packets for families saying that these -- these programs are available. This type of outreach in a very coordinated and -- and smart effort has been going on for years to try to get more people to adopt this program.

I think one of the frustrations that we've seen over the last four years during the Trump Administration is, you see people who are literally -- who are facing the most insecurities, whether it be food, whether it be housing, et cetera. There are many people that we were running into -- that we were encountering that were literally worried about their immigration status, and facing potential -- potential threats on immigration because of the last administration.

And that is obviously patently something that -- that we do not ever -- we're never engaged with the federal government in that way. But it's a very

complex effort to be able to reach these families who are some of the most -- facing some of the most -- most vital and pressing insecurities.

REP. ARCONTI (109TH): All right. Thanks, Tim. That's helpful. Just trying to shed some light on some of that.

TIM WILKERSON: Thank you, Mr. Chairman.

REP. ARCONTI (109TH): I don't see any questions from Committee Members. Thanks, Tim.

TIM WILKERSON: Thank you.

WILL GINN: Next up is going to be Paska Ann, followed by John Erlingheuser.

PASKA ANN: Hi, everyone. Am I live?

REP. ARCONTI (109TH): Yup.

PASKA ANN: Okay. Thank you so much. Thank you for this opportunity to speak to you. This is my very first public hearing, so I apologize in advance.

I oppose this Bill. And who am I to oppose this Bill? My name is Paska Ann, and I started a group very soon after the last Bill that was approved by this legislation to accelerate 5G.

And why would I start a group? I started that group because I found that 5G antennas were being deployed in our communities very quickly. I saw our neighborhoods in Eastern Connecticut raising up utility poles. I saw a big spool of fiber being pulled up our road, and I took pictures of all this. I saw lots of trees coming down, and I knew that this was the precursor to antennas on every other pole.

I then also went to our school and I saw -- and I didn't have any school children because I'm a

grandmother, and my kids are grown, and they've given me three grandchildren. And I saw a cell tower in the soccer field -- across the soccer field.

And I'm going to play something very quickly. So, excuse the noise a little bit. It's a recording that I made using an RF meter. And hopefully, I have sound.

Did you hear that noise? That is the RF radiofrequency microwave radiation pulsing into a soccer field. And the tower -- the tower is actually 2000 feet away from an elementary school. That concerned me after reading studies that our skin and our cells are antennas. So I -- I, and a couple of others started the group called CT Residents for Responsible Technology.

I oppose this Bill because I don't see the safety profiles in place. Okay? We know there are thousands of studies, and I don't have to hug an antenna to be -- to be harmed. It doesn't have to be on top of me to be harmed. It could be literally a thousand feet away. And I'm feeling that at a biological level.

That noise you heard, those children -- those children starting in kindergarten or pre-K are literally being bombarded at a molecular level and a neurological level in their brain. And I have studies to report that.

What I'm asking in this Bill is, we're not taking any way -- any radiation away from our community, we are overlaying it. You started in 2002 with the smart meters. I have a smart meter, and I have three cancers after that was installed. I'm telling you the truth. That is what happened.

WILL GINN: Thirty seconds.

PASKA ANN: Okay. What we're asking for is that, we take consideration to stop the Wi-Fi in the schools, opt-out the smart meters, stop installing 5G until we do a safety profile. Let's look at New Hampshire. They just had a commission. That was excellent. I would love to sit down with Mr. Simmons and yourself, on the staff, to really talk about what can we learn from New Hampshire that we can regulate better. I really want us to do fiber to the premises without any Wi-Fi on the antennas. We've got to take a proactive approach.

I really hope that you do listen -- that we can meet, and we can work together cause we want the same thing. We want accessibility, but we want to be responsible about it, and no biological harm cause it's happening.

My -- my testimony written has lots of studies, including -- including unclassified department of defense and WHO and CIA studies. It's all been documented since the day of the radar. Now, some of you may remember when that was [crosstalk].

WILL GINN: I'm sorry, that's fine.

PASKA ANN: Okay. Thank you. If you have any questions, I'd really -- I'd like to actually talk about adoption for a minute cause that seems to come up. But you'd have to ask me a question.

REP. ARCONTI (109TH): Thanks, Paska. Any questions for -- seeing none. Thank you for your testimony.

PASKA ANN: You're welcome.

WILL GINN: Next up, we have John Erlingheuser, followed by Jeffrey Macel.

JOHN ERLINGHEUSER: Thank you, Mr. Chairman. My name is John Erlingheuser, Advocacy Director for AARP in Connecticut. I'm here on behalf of AARP's almost 600,000 members across the state. And AARP

is here today to support House Bill 6442, because it includes a multiple well-articulated measure -- measures to facilitate broadband progress throughout the state.

The Bill's important to AARP because among other things that help create and achieve the important goal of ensuring that older residents have access to affordable, reliable, high-speed internet.

Equitable access to a high-speed internet is essential to telecommuting and learning from home, that has become clearer than ever during the pandemic. During this time of high unemployment, it's essential to job searching and applying for work. It also enables older residents to age in place safely. And among other things, the high-speed internet access allows older residents to overcome isolation through virtual visitation with friends and family, staying connected to houses of worship, senior centers, libraries, and more.

Multi-generational households broadband service enable grandchildren to learn remotely, and enables telehealth, which is particularly important for those living in rural areas, apart from medical services, and those, where getting in-person healthcare can be a challenge.

Additionally, the COVID-19 pandemic really has put a spotlight on the essential nature of high-speed internet, and the shortcomings of the current network here at Connecticut. And even after the pandemic fades, this is going to be even more important than ever.

So we really support this because it creates a visionary blueprint that guide Connecticut towards a broadband-connected state.

And I just did want to comment on a couple of things. I know Representative Perone enlighten this to deregulation of energy, and could have created

all those kinds of problems. This actually goes in another direction, which would kind of -- well -- well thought regulatory provisions that are allowed under federal law would help bring us back into a position of being able to get access where it's needed and -- and get us on a road to hopefully in the long run affordability. So, you know, we support it for those reasons.

And I would be remiss if I didn't say, I'm happy to not be here before the Committee for the first time in a long time talking about telephone deregulation. And I always get mentioned from Representative Steinberg saying, "Well, we have to do deregulation." And I always say, "We can't put the cart before the horse." And you know, this is the horse. This is what's going to get us to that technology that we need.

The Governor created a really visionary blueprint for what we need to do. I did submit some detailed testimony that had additional suggestions. That was not written by me. It was written by a consultant, Susan Baldwin, who I would be more than willing to make available to Members of the Committee at a future time, and to the administration for any input that she could provide.

But I will say she was quite impressed with the legislation, and thinks, it's could be leading nationwide in terms of what -- what other states should be following --

WILL GINN: Thirty seconds.

JOHN ERLINGHEUSER: -- with regards to high-speed internet. So, I'll give you back your 30 seconds, and be free to answer any questions that I can. Keeping in mind, I'm not a technical guy, but I can tell you about the impacts on our members.

REP. ARCONTI (109TH): Thanks, John. Yeah, I -- you know, I do have a question, right? Cause, you know,

I know you, you've had a big constituency on this subject matter.

But, you know, we've heard from the industry today, a lot, that the Bill is 20 -- you know, 28 pages that does nothing in a sense to -- to solve the problem that, you know, you laid out for your constituent -- constituency when it comes to access. We've heard the access verse adoption argument a lot today. So I guess, you know, maybe without trying to get too technical, why you feel -- you know, to rebut some of their talking points on why this would help your constituency solve this access issue?

JOHN ERLINGHEUSER: Representative Arconti, it's a good question. I appreciate it. I'll do my best to answer. But I'll start off answering it by saying, what I've heard so far -- and I've listened to the entire hearing from the industry, from NECTA, from the individual providers from Frontier, is what I've heard from them year after year after year after year, you know, it's -- it's the same old industry talking points; better education will solve the problem; you know, regulation, isn't the answer. You know, it's the same stuff.

And you know, so I would expect nothing less from them. But we're still at the same problem we've always been at. And, you know, that 30% that isn't getting access to services, regardless of what the FCC or others say about the amount of people. So we think it's important and a good piece of legislation for multiples -- multiple reasons.

You know, we think it -- it -- it has strong consumer protection measures. There are things in there to enhance reliability. There's a lot of data-driven policymaking, and equity. And there are things to improve the Bill as well. I mean, you know, we think broadband should be considered an essential service, and the Bill should make that finding. I mean, you know, there's no question in our mind, that the pandemic has demonstrated, it is

essential. I wouldn't be able to testify here to you today if I didn't have, you know, access to service in -- in my home.

You know, and, you know, there should be more explicit language on oversight. And, you know -- and we should broaden the data that's collected. You know, so there are lots of things that we could do. We do think this is a really, really good start. I do think there are things that can improve the Bill.

But I would say, you know, if I hadn't heard the same talking points from the industry year after year after year any time we try to tackle this problem, I would be really surprised and shocked. So, I know that's not a perfect answer. But I'm -- I'm more than happy to -- to provide our expert to you, Representative, and the leadership and any member of the Committee at any time.

REP. ARCONTI (109TH): Thanks, John. Representative Meskers.

REP. MESKERS (150TH): Yeah, John, thanks for your testimony. So, it's -- it's along the same lines as Chair Arconti's question, framed possibly differently. So, upon -- apart from the ongoing complaints or suggestions from the existing providers who are ultimately not providing coverage, to a decent or significant portion of the -- of the population. I was not in the entire time, but I was in and out. Was there any proposal, or counter, or suggestion that you thought brought merit with it?

JOHN ERLINGHEUSER: Well, I mean --

REP. MESKERS (150TH): I ask you that because -- the reason I asked you that is obviously, you're [inaudible] representing constituencies, so you're not either part of the government -- but, the thing is, you're not part of the government, and you don't own a cable company. So I just -- did you -- did

they give you any kernel of an idea of where they could be a private partner?

JOHN ERLINGHEUSER: Let me -- let me -- let me answer your question this way, Representative Meskers. And I -- I appreciate it. It's -- the work things, that certainly make sense. I mean, we recognize -- we put into one of the suggestions we think needs to be included in this Bill is, digital literacy.

I mean, you know -- and I -- I would say, anything that -- that can be done to increase knowledge about the availability of different programs that may or may not exist, certainly would help. But I don't think that's the answer. I mean, that's always, you know, the industry. I mean, I -- I'll bring an analogy to an issue that's dear to your heart and mind. And I know a lot of Members of the Committee, third-party electric suppliers, for years and years and years, their answer to the people getting ripped off was, "They need better education."

And, you can educate some folks to -- to the hilt, it's not going to change the problem. It will help. But when we have the kind of chasm we have right now, it's not the be-all and end-all. So yes, I support the notion that there needs to be better information and access and education to the available programs. But where I disagree is that, that's not going to, you know, solve the problem.

And, you know, as I said, I've said in previous years about the testimony, why -- you know, the industry recognizes the problem. They say, the government shouldn't intervene. We shouldn't do any -- any form of regulation that we're permitted to do under law. And yet now they're saying -- you know, just all -- it's all about education. It's not -- you know, this isn't the answer. This isn't the answer. Well, what -- you know, they haven't provided anything particularly solid that will solve the problem either.

You know, I -- I remember, you know, Representative Horn has a big problem. I remember Representative Willis bringing it up year after year. And the answers that I've heard from the industry today are the same answers I've heard in the years -- all the years that I've been doing this.

By the way, I would be remiss if I didn't bring up, you know, the fact that the industry years ago was trying to get Connecticut to preempt regulation of any of their services. And they used to say, "Well, there's no big deal doing this because we're just saying we can't do what you -- you already can't do." And we fought back. And we won that panel a couple of times against the providers, when it came to them, trying to get Connecticut to proactively preempt our ability to do any of this kinds of regulation.

So -- so, you know, the short answer is yes. The long answer is it's not going to solve the problem.

REP. MESKERS (150TH): Okay. Thank you very much.

JOHN ERLINGHEUSER: You're welcome.

REP. MESKERS (150TH): Okay.

REP. ARCONTI (109TH): Thanks, Representative. I see no more questions. Thanks, John.

JOHN ERLINGHEUSER: Thanks guys. Appreciate it.

WILL GINN: Up next is Jeffrey Macel, followed by Pat McDonnell.

JEFFREY MACEL: Thank you very much. Chairs, Arconti and Needleman, Co-Chairs and other esteem Members of the Committee, thank you for the opportunity to appear before you today. My name is Jeff Macel, and I'm one of the principals at Lodestar Energy. We are here today to express our

support for the proposed uniform capacity taxes set forth in Bill 993, as proposed with amendments.

By way of background, this legislation would clarify and simplify confusion over the existing 12-81(57)(D) tax exemption for virtual net metering projects, and also, extend to other solar projects in the skiff, and other programs provided by DEEP and PURA.

Lodestar developed six projects in Connecticut over the past seven years in the virtual net metering program. For each project, we've met with town managers, attended board of selectmen meetings, planning board meetings, and in some cases, in the wetland board meetings.

After each meeting, we've requested the town to provide a letter of support to the Connecticut Siting Council, who has exclusive jurisdiction over the siting, and permitting of these projects. Every town, with the exception of one, of the six projects we've done, has been willing to provide a letter of support.

We've also offered the host town for every single project, the opportunity to purchase the discounted net metering credits from the proposed facilities, and offered to enter into a tax agreements for these projects, despite the fact that these projects are tax exempt.

Only one town was prepared to enter into an agreement to buy the discounted credits from the project located in its town. And only one town has entered into a tax agreement prior to the project being built, which is significant.

The proposed 993 would offer uniformity across the state, and follows the examples of Rhode Island and Vermont in providing a uniform application for projects in the state.

For the projects that we did not enter to -- enter into tax agreements with, we ended up having disputes with the town about the applicability of 12-81(57)(D). And therefore, we think this amendment would be an excellent tool to help clarify the application of the statute, and also provide the -- the towns with revenue from these projects.

Our projects have two components of the taxing, the real property and the personal property. The statute is only applicable to personal property. In every case, we have been paying real property taxes on these facilities, and in every case, our real property taxes have gone up approximately ten times what they were prior to installing the solar facility.

WILL GINN: Thirty seconds.

JEFFREY MACEL: This is an important thing to note for the benefits that we provide to the towns in increased tax revenue, and despite removing the personal property from the tax ledgers and exempting that tax, there's still ample opportunity for the towns to get tax income.

Our projects don't touch the town's roads, schools, or other services, police, fire, et cetera. And therefore, the increase in personal property -- real property taxes should be sufficient to provide benefits to them.

We encourage the ENT Committee to support 993 with amendments, and this will provide a much more uniform and simplistic application throughout the state. Whether we build our projects in Hartford or New Hartford or New Canaan or North Canaan, the rates that we get for our solar projects are identical, and therefore a uniform tax rate across the state would be beneficial to both the developers and the towns. Thank you for your time this afternoon.

REP. ARCONTI (109TH): Any questions for Jeff?
Seeing none. Thanks, Jeff.

JEFFREY MACEL: Thank you.

WILL GINN: Next up we have Pat McDonnell, followed
by Vincent Pace.

PAT MCDONNELL: Good afternoon, Representative
Arconti, Senator Needleman. Unfortunately, my
camera has decided to stop working on me. So I can
either just provide my testimony, or I can get on
another computer and come back, if you'd prefer.

REP. ARCONTI (109TH): No, you could -- you could
go.

PAT MCDONNELL: You don't need to see me. Okay,
great.

REP. ARCONTI (109TH): We know each other's voice.

PAT MCDONNELL: Thank you so much. I'm Vice
President, regulatory affairs for UIL, the parent
company for UI United illuminating Southern
Connecticut Gas, and Connecticut Natural Gas.
There's two Bills I'd like to testify on today. The
first is, Raised Bill, Senate Bill No. 992, AN ACT
CONCERNING UTILITY COMPANY TEXT MESSAGE
COMMUNICATIONS.

We're firmly committed to providing information to
our customers in the ways that meet their needs
best. Certainly, we live in a world where text
communications are increasingly common tool to
communicate, and we appreciate the thoughts in
Senate Bill 992.

We've got a few items for consideration. The first
is, not all customers can receive texts without a
fee. So, we believe it's a lot -- it's critically
important to lock customer's ability to choose how

they like to receive information, including allowing them to opt-in.

In addition, I think we'll need some time to develop the systems that's necessary to implement such a plan, to keep track of which customers like a text and which ones would not.

And for these reasons, I believe that the statute should direct PURA to initially -- initiate a proceeding to consider a program, to communicate to customers via text before service can be terminated. And allow PURA to implement the details of how the messages would be sent, and what will be in the messages.

The next Raised Bill I'd like to comment on is House Bill 6442, AN ACT CONCERNING EQUITABLE ACCESS TO BROADBAND. We've provided detailed comments on the wording of the Bill, to try to provide clarity to the requirements and avoid unintended interpretations.

I'd like to provide some high-level concerns, we hope, can be incorporated. First, we want to maintain the safety of all parties involved. There's separate parts of the pole, the power game, the communications game, for good reason. I want to make sure there's adequate separation. The two systems ensure the safety of all the workers. These concerns apply to undergrads around an electrical conduits as well.

Unintended energization communication equipment, or workers not trained in electrical systems, is potentially lethal combination.

Another consideration is the work associated with pole attachments should be part of the cost of the telecommunication system, and not subsidized by electric customers.

We also believe that PURA should work with telecommunication companies on an ongoing basis to ensure that needs of the telecommunication companies are being met; that the telecommunications companies are the filling their obligations associated with the facilities.

The timeframes associated with the attachment, should be developed and implemented by PURA rather than established in statute.

The timeframes might be appropriate for a single attachment to one pole, but there can be numerous attachments in an infrastructure build-out. There could be time to set new poles or anchors. There could be vegetation work that needs to be completed with the associated permissions. There could be underground work that needs to be completed, and it could be large numbers of attachments. PURA is best positioned to develop categories of timeframes within the work, should be completed.

PURA could also develop a process for things such as whether that would impact those timeframes. In addition, PURA should also establish timeframes for the attachers to complete maintenance and relocation of their facilities in the public, right away.

Double poles are a large problem in Connecticut. And the existence of these double pole situations is a direct result of the communications company's failure to relocate their equipment. Attachers should properly relocate their -- their facilities when notified or face fines or other sanctions from PURA. Thank you for these comments. I'd be happy to answer any questions you may have.

REP. ARCONTI (109TH): Thanks, Pat. Did you include these -- some of these -- these safety changes in your written testimony?

PAT MCDONNELL: Yes. All the -- all the -- the detailed comments are designed to clarify that, so

that there's no ambiguity about -- when talking about the gain on the poll of telecommunications gain, there's no confusing that with the power gain and likewise, for conduits, that would be underground. You know, if we've got a high voltage duct system underground, you know, we -- it's not a good place for a telecommunication worker to be because of the safety hazards.

REP. ARCONTI (109TH): Okay.

PAT MCDONNELL: So we've included some clarification to try to make sure that separation's maintained.

REP. ARCONTI (109TH): Perfect. Thanks. Questions from Committee Members? Seeing none. Thank you.

PAT MCDONNELL: Thank you.

WILL GINN: Next up is Vincent Pace, followed by Ms. Vazquez.

VINCENT PACE: Good afternoon, Chairman Needleman, Chairman Arconti, Vice-Chair Winfield, Vice Chair Allie-Brennan, Ranking Member Formica, Ranking Member Ferraro, and other Members of the Committee. My name is Vincent Pace. I'm an Assistant General Counsel on Eversource. And I'm joined today by Desiree Vazquez. She's Eversource's Supervisor for single-pole administration.

Thank you for giving us the chance to appear in front of you today. We submitted detailed testimony on four Bills. I'll just summarize our comments on one Bill, and refer to our testimony for details.

So the Bill would like to focus on is House Bill 6442, that's AN ACT CONCERNING EQUITABLE ACCESS TO BROADBAND. And we support the state's goal to provide enhanced communication service to Connecticut residents, especially during COVID 19, which has demonstrated how important robust internet

coverage is. We want to thank the Committee for holding a hearing on this important topic.

My comments are focused on just one section in the Bill that covers installing new communications equipment on poles. So, first, when the Bill talks about having one crew go out to the pole to shift communications equipment. We appreciate the fact that you want to ensure they do not work on dangerous, energized electric lines, that need to be handled by electrical line workers.

And there's a reason why the electric lines were at the top, and there's separation between them, and communications equipment for the down on the pole. And because that's an important worker safety issue, our testimony proposes some very important clarifications to make sure that intent is crystal clear. We want to make sure that communication workers are not working on electrified lines.

The second item that we want to raise is that the Bill says that, whenever a communications wants to attach new equipment to a pole. The permission shall be granted within a fixed deadline. But there's no exception to that deadline, and it gives PURA no power to establish exceptions.

And the reality is, our electric line workers work in very dangerous conditions, and they encounter lots of issues in the field. And they also, many times, need consent for tree trimming. They also need to give notice for scheduled power outages, and there's other conditions they have to satisfy before work can be done.

For these reasons, we ask that PURA decide what deadlines to use. But if the Committee decides that you need to have a fixed deadline in the statute. We respectfully ask you to consider allowing for exceptions when it's beyond someone's reasonable control, and to empower PURA, to also approve exceptions.

We look forward to working with this Committee and other stakeholders to address these issues. And that includes my statement. I'm very happy to answer any questions. And we have Ms. Vazquez, who can answer questions about our pole attachment process. Thank you very much.

REP. ARCONTI (109TH): Thanks, Vince. Questions from Committee? Seeing none. Thank you.

VINCENT PACE: Thank you very much. Take care.

WILL GINN: Next up, we have Deb Polun, followed by Ronald Vivar.

DEB POLUN: Thank you. Good afternoon. My name is Deb Polun, and I'm testifying today in support of House Bill 6442 concerning equitable access to broadband.

I am the executive director of the Connecticut Association for Community Action. We are the state association that works with the state's nine Community Action Agencies.

The Community Action Agencies are the state and federally designated anti-poverty agencies, serving about 200,000 low-income people in Connecticut, in all of your districts, in all 169 cities and towns in Connecticut.

Community Action Agencies connect their customers to essential programs and services like energy assistance, SNAP enrollment in food, housing, employment, and training, childcare, and more.

For a holistic multi-generational approach, our agencies work with those in need to plan, achieve, and maintain a realistic path to short and long-term economic self-sufficiency.

I want to thank this Committee and the Governor's Office for your support of enhanced access to broadband, as well as for the thoughtful dialogue that you've engaged in throughout the day that I have listened in on as well.

As has already been so well put, access to broadband has become essential for people to participate in both education and our economy. Simply put, not having reliable broadband is a barrier to getting out of poverty.

We have a digital divide in Connecticut that aligns with other divides, including poverty, economic opportunity, health access, and outcomes in educational success.

In addition to hitting low-income families, the connectivity deficit also disproportionately affects Black and Hispanic, Latino residents, as well as older adults. The deficit that has become glaringly impactful throughout this pandemic. And most recently, as people have tried to register for the COVID vaccines.

The state must take an active role in making broadband available to all residents. There is no fiscal incentive right now for companies to take this on, on their own.

Connecticut has taken great steps in advancing digital equity. And we've provided every school student with a laptop statewide. But we know there's still more work to be done. And, as it currently stands, our fiber and telecommunications infrastructure is just not set up right to address the digital divide.

This Bill works to address this issue by collaborating with cable companies, municipalities, businesses, and consumers, to help close this broadband gap, grow the economy, lower broadband costs, and allow or recite broadband facilities.

In 2021, there's simply no reason why some Connecticut residents, especially our most vulnerable and at-risk populations, continue to experience barriers to accessing the internet.

WILL GINN: Thirty seconds.

DEB POLUN: So, I strongly urge you to support this Bill and help all Connecticut residents reach their potential.

REP. ARCONTI (109TH): Thanks, Deb. And it's good seeing you again. Haven't seen you in a while.

DEB POLUN: Good to see you too.

REP. ARCONTI (109TH): Any questions for Deb? Seeing none. Thank you for your testimony.

DEB POLUN: Thank you so much.

WILL GINN: Next up, we have Ronald Vivar, followed by Jill Drew.

RONALD VIVAR: Okay. Can you hear me?

REP. ARCONTI (109TH): Yup.

WILL GINN: Yes.

RONALD VIVAR: Okay. Awesome. All right. So, in early April, Bella, my best friend, now my girlfriend, messaged me to inform me 5G cell towers and smart meters were making her sick. Back then, I had little money to pick her up and afford a place of our own, so I worked overtime.

Since we moved in together. I was not able to cook due to her electro sensitivity, meaning my parents cooked one meal, and we got the rest from food banks.

There have been times when I accidentally turned on the EMS in her presence, out of habit. Once I was at work, and I used EMS, and I would feel guilty due to psychological trauma. Both of us need therapy from EHS.

The EHS lifestyle is inhumane, and it causes my girlfriend to be discriminated -- discriminated again, because we can't go to certain -- she can't go to certain places due to EMS exposure.

Will, she one day have to be locked in a faraday cage? Who wants to live like that? This is a human rights issue. We will have to become EMF refugees, and leave the State of Connecticut, if it continues to pass harmful Bills like this one.

Please watch the TED Talks called the Wireless wake-up call by Jeromy Johnson, Generation Z documentary, and the 5G Trojan Horse documentary by Derrick Broze.

Politicians and telecommunication companies are deliberately harming my girlfriend with malicious intent. People who develop health conditions due to wireless technology deserve financial compensation.

As someone with a bachelor's degree in biology, I know we need to get citizens away from the harmful radiation. Fiber optic cable and ethernet are safer, faster, and more reliable on windy days and rainy days than 5G.

The National Toxicology Program, a branch of NIH.gov, discovered 2G, and 3G gave cancer to rats after only two years of exposure during a ten-year study, that costs \$30 million dollars.

Scientist Ron Melnick was -- a part of this study stated we have no evidence to provide 5G or and G beyond that is safe.

Connecticut Senator Richard Blumenthal said we are flying blind here, as far as health and safety are concerned because we did not have independent studies and enough information on the safety of this technology.

I oppose Bill HB 06442 Equitable Access to Broadband because it will lead to more people suffering from cancer and EHS.

And second, Senator Steve Cassano said over the phone, he knows someone who got sick through the power lines. The California appellate court ruled EHS as a disability under the -- under the FEHA law.

In Cuba, people are developing an neurological condition called the microwave pulse energy known as the Havana syndrome. This indicate EHS is a neurological condition rather than a psychological one.

Dr. Henry Li discussed how the studies on radio frequency are being funded by the industry it has been to regulate. This is corrupt and illegal. We should delay until scientifically proven safe by independent studies not funded by telecommunication companies. If politicians prioritize safety first during the COVID they should do the same with this Bill.

I'm happy to answer any questions now.

REP. ARCONTI (109TH): Thanks, Ronald. Any questions for Ronald? I don't see any question from the Committee. Thanks, Ronald.

WILL GINN: Next up we have Jill Drew, followed by Whitney Flood.

JILL DREW: Okay. Thank you all. I am delighted to be here today to testify in strong support of HB 6442. My name is Jill Drew, and I'm the Co-Chair of the all-volunteer Sharon Connect Task Force.

We are a group of concerned residents formed in -- in 2019 to advise the town of Sharon's board of selectmen on options to provide high-speed conductivity to all our residents.

Our group recently surveyed the 1500 households in Sharon and found that a full 90% of the 551 households that responded to our survey, were unhappy with the price or service or both of their current internet provider, or they just did not have access to high-speed internet.

Comcast Xfinity serves more than two-thirds of the town's addresses. But those who live on roads, Comcast has chosen not to wire, have had to cobble together as best they can, with Frontier DSL, which is slow and unreliable, HughesNet satellite, which is slow, unreliable, expensive, and capped, and Wi-Fi hotspots from Verizon or AT&T, which are very expensive and too slow when multiple devices are connected.

Our local elected officials in town residents have tried unsuccessfully for 15 years to convince Comcast to wire unserved portions of our town. Comcast will wire selected homes provided the owner pays all the expenses beyond the first few feet. This usually means thousands of dollars, and only the wealthiest residents can afford that.

Fourteen years ago, way back in 2007, Comcast was considering wiring an unserved area of our town known as South Ellsworth which has roughly a hundred homes. We are still waiting. Are we still -- we can't afford to wait another 15 years for Comcast to act.

In desperation, Sharon is being forced to explore spending millions of dollars, divided by bonding by the town, to build a municipally-owned fiber-optic network. Our town in the rural Northwest corner of the state has been losing population for years. But

now has the opportunity, if we could get reliable universal high-speed internet to attract families who could work from home, and help to rebuild a robust local economy.

Our group has been working with urgency, especially since the outbreak of the pandemic, when the digital divide here became glaringly apparent. Too many of our children have suffered when attempting remote learning, too many colleagues working from home have been stymied and too many elderly residents are unable to participate in telehealth appointments, all because of connection speeds that are not sufficient for today's world, or from lack of access to broadband altogether.

We applaud the Governor's initiative, and we urge the Committee's support. Thank you. And I'm available to answer any questions.

REP. ARCONTI (109TH): Thank you, Jill.
Representative Horn has a question.

REP. HORN (64TH): Thank you, Mr. Chair. Nice to see you, Jill.

JILL DREW: Me too.

REP. HORN (64TH): Thanks. I have mentioned -- we have had some discussion earlier in this Committee about, you know, various efforts in -- including in the towns in my district, including Sharon, and -- and throughout the district that are working on -- like you have mentioned Sharon connect, the work that you are doing.

And -- and because I think we've had a number of conversations in particular about, you know, some of the incumbents saying, "This is about education. This is about --" So I wonder whether you could comment about the kinds of work your Committee has been doing with the community, and the need there,

and what you have seen in terms of, you know, what's happening in our -- in our towns?

JILL DREW: Thank you so much, Representative Horn. And thank you for your really important advocacy on this point. So, one of the things that we did when we formed this group was, we really wanted to find out what residents of the town wanted to do. I guess we figured out. We were pretty much on our own. Comcast was not going to solve our problem. Frontier is not in a financial situation to solve our problem.

So, we -- we created a survey for the town, and we really -- we got a third of the town's households to respond, which is an extraordinary number for a survey like that. But what -- so we were doing that survey over the summer, and at the same time, we were hearing individual stories from individual residents about their issues of trying to connect, and they couldn't connect.

So what we did was, one member of our task force, who's pretty, Megan Flannigan who's just fabulous, started doing one-on-one tech support for various families, starting with families that had children in school, who couldn't do remote learning because they couldn't get high enough speed to be able to connect to their classroom online.

And so, she was doing things like trying to get hotspots for people and -- and -- and really listening to, trying to solve that issue of that very last mile, these -- you know, there were probably eight to ten households in Sharon where she got involved trying to connect -- trying to find a way that the students could connect at home. I mean, some people were even going outside our library to connect with because you had the send network being wirelessly, that's what they had to do for their kids to do their homework. And as it started to get cooler in the fall, and the sun was setting earlier, that became impossible.

So anyway, I guess what I want to say is that, we feel in Sharon, and then several of the other communities in the Northwest corner, people, you kind of know, who has -- who has connectivity and, you know, some of the people who don't. I think -- and so we've been trying to help as best we can, the people who don't.

But it really is -- it's -- it can be really a money issue. Many of the families who cannot connect, you know, would be \$10,000 dollars for them, to pay Comcast for them. And that's just really out of -- out of -- out of anybody's league. You really can't do that unless you're one of the most wealthy -- wealthy --

REP. HORN (64TH): And I think that, that's really helpful because it actually sort of shows there's a little bit of overlap between the access and adoption issue. Because if you're told that it's going to cost you \$10,000 dollars to -- to connect you, that's not -- that's both.

JILL DREW: Yeah.

REP. HORN (64TH): So, and I -- so I thank you for that. Cause I know that -- that a lot of the work you've done has revealed where the infrastructure problems are and -- and really you and Megan and others have worked to -- you know, all the band-aid approaches to try to get -- you know, use every bit of education, everything you can, to try to fix it. But it's not enough.

So, I thank you for everything you're doing. And I -- and I hope that all the intelligence that you've gathered, not just in Sharon, but actually your survey, I think, was used throughout regional and school district.

JILL DREW: That's right. Yeah. I forgot to mention that.

REP. HORN (64TH): Numerate, this -- this problem is hugely helpful. So, thank you, Jill.

JILL DREW: Thank you.

REP. HORN (64TH): And thank you, Mr. Chair.

REP. ARCONTI (109TH): Thank you, Representative. I don't see any other questions. So thank you, Jill.

JILL DREW: Thank you.

WILL GINN: Next up, we have Whitney Flood, followed by Charles Rothenberger.

WHITNEY FLOOD: All right. Am I on?

REP. ARCONTI (109TH): Yup.

WHITNEY FLOOD: All right. Great. Good afternoon, esteemed Members of the Energy and Technology Committee. I am testifying here today to oppose Bill 6442.

I'm all for technology advancement, but not without it moving forward in a safe way. The other day, I was forwarded an email from Northwest ConneCT, who I believe is in charge of fitting the pieces of fiber laying plan together. It stated the urgency to write to you all, and make you aware of support.

I read the message, and then I read the Bill, and a few things stuck out to me. Equitability of the Bill, and how it will bring basic high-speed access to all. Right now, I live in an area where there's only one provider for telephone and internet. If this Bill passes, will there be more options, or will I be stuck paying one high price because there's no competition?

Also, on the Northwest ConneCT email, there's a link to find out how you can have fiber run to your home.

I searched, and I could find no definite answer to this. I did, however, find that it would increase the cost depending on the municipalities accepting the fiber upwards of \$10 to \$20 dollars a month per household.

I also found on the site that it will help connect to the smart homes and the internet of things. Which would need small sale and roll-outs, and would be connected to the 5G network.

As for maps of coverage, maybe that work should be finished first and assessed first to determine who really does need this broadband expansion. I understand we all want to go to one gigabytes per second for download speeds, but for most people at home, is -- is that really necessary? According to broadband now, in terms of broadband access, Connecticut ranks solidly as the state with the 10th best connection in the US.

Also, I question the one-touch make-ready. It is described in the email as a simple way for companies to move around wires, basically without needing permission. But, I believe the FCC has adopted this as to mean any modifications to poles and wires without permission, pretty much cutting the red tape for small cell antenna rollout, which is the end game.

Is it really necessary for pre-kindergarten children to have devices in front of them, especially with all the studies around that harms when they -- when it comes to Wi-Fi. Wouldn't it be better to hardwire our schools?

My home is hardwired, no -- no Wi-Fi. That's by choice. I don't want small cell antennas anywhere around my property, nor do I want a smart meter, which in my opinion is part of this Bill's agenda. The communication to communication, constant Wi-Fi emitting grid is the long-term goal, not just giving service to the few in need.

This Bill -- this Bill will be opening up the flood gates in the area of smart -- implementing smart cell antenna on poles to connect us all to the smart grid. This infrastructure will be happening all over the country with no real safety studies from the technology companies.

What we should be focusing on here is hardwiring without the use of Wi-Fi, and small cell antennas. EMS are considered a carcinogen. Thank you for your time.

SENATOR NEEDLEMAN (33RD): Thank you so much for your testimony. Do we have anybody that has any questions? Thank you, Whitney. I appreciate it.

WHITNEY FLOOD: All right, cheers.

SENATOR NEEDLEMAN (33RD): Will?

WILL GINN: Next up we have Charles Rothenberger, followed by Howard Symons.

CHARLES ROTHENBERGER: Good afternoon, Co-Chairs Needleman and Arconti. My name is Charles Rothenberger. I'm the Climate & Energy Attorney with Save the Sound. And I'm happy to testify this late afternoon in support of both, HB 6571, concerning the C-PACE program, as well as HB 6572 concerning the establishment of additional energy efficiency standards for buildings.

So with respect to 6571, as you're aware, the Connecticut Green Bank's, other programs through the C-PACE has a long history of success -- successfully leveraging small amounts of public funding to leverage significant private investment. In fact, approximately 70% of the capital deployed to the Green Bank's C-PACE program comes from private investors.

They currently can finance a host of innovative technologies, including participation in district heating and cooling systems, microgrids. They are very involved in energy efficiency improvements, as well as clean, renewable energy systems.

Expanding this mission to include electric vehicle charging stations, and resiliency measures will enable building owners to increase the value of their properties while also promoting clean green technology.

The cost of EV infrastructure and resiliency measures will allow businesses to more easily adapt to Connecticut's changing transportation landscape, as well as the inevitable impacts of climate change. And we urge the Committee to support the Bill, and I'll report it favorably out of Committee.

Likewise, with HB 6572, which would allow municipalities to volunteer -- voluntarily adopt enhanced energy efficiency standards for new substantially renovated buildings. This will have significant benefits for Connecticut residents improving the energy efficiency of our building stock. As well as -- as some other people testified, ensuring they're benefiting from renewable energy and are capable of supporting EV charging related to the previous Bill, is really a critical part of meeting our greenhouse gas reduction targets.

And this will also enhance the value of buildings in the real estate market, as well as help us to achieve significant reductions in demand on the energy grid, which will be important both, as we look to build out our intermittent renewable energy resources, as well as we -- as well as increase the beneficial electrification of our buildings and transportation sector.

So I'll just conclude by saying, we support both of these Bills. I appreciate your time and

consideration of the testimony. And be happy to answer questions, if you have any.

SENATOR NEEDLEMAN (33RD): Thanks, Charles. I don't see anybody with their hand raised. Nope. So thank you so much.

CHARLES ROTHENBERGER: Thank you.

SENATOR NEEDLEMAN (33RD): Will, who's up next?

WILL GINN: We have Howard Symons, followed by Judith.

SENATOR NEEDLEMAN (33RD): Hi, Howard. You're up.

HOWARD SYMONS: Oh, thank you very much, Senator. And thank you all for the opportunity to testify at this late hour, and for the completeness and fullness on the record you're building on -- on these Bills. My name is Howard Symons. I'm a partner at the Jenner & Block law firm. Previously, I served as senior counsel to the US House Subcommittee on Telecommunications, and as General Counsel of the FCC.

I'm here today on behalf of all [inaudible] and Charter. I -- and the hour is late. I just want to spend a couple of minutes on -- on the serious preemption issues that we think are raised by HB 6442.

The -- the Bill proposes to regulate broadband internet access, like a utility, just like electric and water companies. As a result, it is preempted by federal law. I know the attorney general, and the OCC testified earlier today to the contrary, but with all due respect to their testimony, we think that it ignores the very real preemption risks posed by the Bill, in two regards.

First, because it seeks to regulate broadband within the same ambitus as energy and water under PURA's jurisdiction.

And second, because of some of the amendments in the Bill, particularly in Sections 18, 19, and 20 violate the federal Cable Act's limitations on what a state can do with respect to cable -- cable operators and cable regulations. And let me take each of those buckets one at a time.

First, with respect to broadband, the FCC and the courts have long recognized, that broadband is an interstate service, and therefore it is governed by federal law. It's obvious to see why broadband gives customers the internet, and the internet is the global network of networks.

Unlike phone service, there's no separate local or purely intrastate use of broadband. And -- and nor is there any realistic way to coordinate off the interstate and intrastate uses of the internet. In fact, the Bill itself doesn't even try. It simply regulates broadband service without regard to jurisdiction.

The interstate nature of broadband is not a partisan issue as the federal government reviews it. Republican and Democratic FCCS have long agreed that it is necessary and appropriate to have a uniform federal broadband policy, and preempt broadband requirements that are in conflict with that federal framework. I -- the Bill is in conflict with that federal framework.

HOWARD SYMONS: Under federal law, broadband --

WILL GINN: Thirty seconds.

HOWARD SYMONS: -- is an information service, and information services are exempt from common carrier regulations like rate regulation like -- like treatment as a utility within a utility regulatory

scheme. Any effort by a state to impose that kind of scheme as a Bill would do is in conflict with the federal scheme, and would therefore be -- be -- be preempted.

The Bill just that, it lumps broadband providers in with the traditional utilities, and gives PURA, broad authority to regulate broadband rates. In fact, the express purpose of the Bill under Section 8 is to increase the power -- or amend Section 8 to say, increase the power of PURA and promote local control of broadband internet access services. Those objectives are directly contrary to the federal framework.

WILL GINN: I'm sorry. That's fine.

HOWARD SYMONS: And the fact that -- that broadband's an interstate service.

SENATOR NEEDLEMAN (33RD): So thank you very much, Howard. I'm not seeing anybody with their hand raised. But I have a question for you.

HOWARD SYMONS: Sure.

SENATOR NEEDLEMAN (33RD): You obviously have a deep well of experience here. You've listened to the two-headed hydra problem that we have; access in -- in urban areas where affordability and -- and other problems of connectivity occur. And then you have the other problem in -- largely in Northwestern, Connecticut, where access is really limited because the commercial viability is -- the numbers don't make sense, right?

So, here we have a product that is moved from, want to need, rapidly. And clearly, everybody sees that. It's highlighted by the pandemic, but it's been obvious for a while to most people. It affects property values. It Affects people's desire to move to parts of the state of Connecticut. What would you think would be an appropriate solution?

HOWARD SYMONS: Well, I would defer to accompanies who -- who's taken on the responsibility of business and building out those systems throughout the state.

SENATOR NEEDLEMAN (33RD): Don't -- don't punt.

HOWARD SYMONS: Well, I -- you know, I here -- they've asked me to talk about the preemption framework, and I'm happy to answer questions about that. I think within that framework -- I -- I know some of the earlier witnesses spoke about the -- the program -- state and federal programs that are available to subsidize the construction of broadband out to those areas. I heard, a minute ago, about Sharon, Connecticut [inaudible] Buckley's ancestral home. I -- and I -- and other -- other areas -- other areas of the state that -- that needs support.

The Bill, you know, you can -- I think government -- state and local and federal government can address that need without running afoul of these preemption issues, without trying to -- try to tackle those issues by classifying broadband, as utility, by having targeted intelligent funding programs.

And there's going to be -- I know in the -- in the -- in the Bill, that's pending before Congress, there's a fair amount of money for that -- for those programs, as well. That, to me, is the most effective way to address those -- those availability programs and the affordability programs.

You know, I'm not -- I'm not here to talk necessarily about policy, but I will say you can avoid the problem I've identified of preemption. I -- and running afoul both of the interstate nature of broadband and the limitations in the Cable Act by addressing the problem as it sits. Which is, people can't afford to buy service, well, let's help support them. It's not economic to build out to certain parts of the state. Let's provide as a society money to bring those services out to the

state. But turning broadband into a -- into a utility or seeking to do that, is not the most effective way to address those problems.

And again, going back to why I was asked to -- to -- to appear here, it's also not lawful. It's -- it runs right up against this federal policy of trying to address precisely the objectives you raised, Senator, for more direct means than try to do it indirectly by classifying broadband as a wire or electric utility, and then ordering them to do it. That's just not the model that the feds have adopted. And therefore, it's not a model that Connecticut -- Connecticut can adapt to achieve those goals.

SENATOR NEEDLEMAN (33RD): I'm not disagreeing with you. I just am trying to get to a solution here, and figure out the best way to do it. You know, in -- in the world that I live in as a owner of a corporation, I feel like I have civic responsibility, that I'm the stockholder, I have some obligation to make sure that I treat my employees, my customers, my suppliers, all fairly.

And the suggestion to me that -- that we should subsidize companies that do \$80 billion dollars a year in sales, where they make \$10 billion dollars a year in profit, because they don't want to invest over a few years, enough infrastructure build-out, simply because each mile on its own has to stand on its own two feet, right? Everything is our cost-benefit without a community benefit conversation here.

And to me, when the business world doesn't sort of step up -- and I'm from that world. Where the business world doesn't step up to provide what is now an essential service, you're going to hear a lot of people throw out a lot of ideas. And not -- not -- not anything about a personal opinion here, but it's really a crying shame.

And you referenced to William F. Buckley. He was a childhood hero until I learned better, that he was capable of using his great intellect for all the wrong reasons. So anyway, I -- I appreciate the testimony. I see Representative Horn has her hand up, and I defer to her for the moment.

REP. HORN (64TH): Thank you, Mr. Chair. I'll be quick. I just wanted to actually tag onto the -- the William F. Buckley territory, and just make the point that, I think, a lot of people miss that in Sharon, where Buckley is from, 40% of the kids qualify for free or subsidized lunch. So it is not the, you know, purely wealthy community that -- that -- sometimes that reputation gives it. So, thank you.

HOWARD SYMONS: No, I certainly didn't mean to suggest anything other than I knew that he was from there, so.

SENATOR NEEDLEMAN (33RD): I think we know that. And thank you, Representative Horn. That is a fact that I would not have guessed, and did not know. So I don't see anyone else's hand up. I see Representative Horn's still up. But I think we're going to move on. Howard, I -- I appreciate it. And thank you for your testimony.

HOWARD SYMONS: Thank you, Senator and Representative Horn.

WILL GINN: Next up is going to be Judith, followed by Kelly.

JUDITH DE GRAFFENRIED: Am I muted?

SENATOR NEEDLEMAN (33RD): You're not muted. There's no video.

JUDITH DE GRAFFENRIED: I guess that doesn't matter, does it?

SENATOR NEEDLEMAN (33RD): Nope.

JUDITH DE GRAFFENRIED: Nope? Well, I'll start my video. I'm not sure I want it, but --

SENATOR NEEDLEMAN (33RD): Okay.

JUDITH DE GRAFFENRIED: I may not. [laughs] All right. Let me just move on, one more time.

Okay. I would like to talk to our Representatives about the 5G pulse modulated microwave powers that are being deployed throughout our state and our towns. There are several issues that have been suppressed by the telecommunications industry that we urgently need to discuss. These issues are not understood by our legislative bodies.

One, there are over 20,000 scientific studies documenting the proven health hazard of the pulse modulated microwave radiation found in all the Gs. However, what is termed 5G is especially dangerous because it penetrates our bodies, and cannot be blocked.

Unnatural digital pulse modulated radiation of decimeter, centimeter, and millimeter-wave links is harmful to all biological organisms, including bees. The biofacts include the following: brain, neurological, respiratory, joint, muscles, skin, eyes, ears, heart, and immune system. There's no way this penetration, without consent, could be constitutional. And I'll say, there's been a lot of talk about equity and poverty; illness aggravates that. That's not good for anyone.

Two, fiber optics is a far superior technology. Fiber optic is a safe, faster, cannot be hacked, and remains operational during inclement weather conditions.

Fiber to the premise can easily be installed in our schools and homes because the cables are fully

extended already to the WTS. All that is necessary to hook our residents and businesses up to fiber optics, is to extend the cables from the cell towers to the premise.

Three; now this is really important. This might answer some questions. The telecommunications companies owe the state and our town, Billions of dollars. I think in total, they owe consumers \$500 Billion.

Since the early '90s, we consumers have been paying fees for the installation of fiber optic cables that were never provided; instead, the money was diverted elsewhere. We need to go after these companies for the misappropriated funds. Hey, hey, hey, could that possibly help us out?

The new 5G deployments are a logistical nightmare. They will have to be deployed on every block, and will require - listen to this - huge amounts of electricity to operate. These deployments violate our community commitment to sustainability by drastically driving up our energy demands. And I'll have to tell you, "I cannot afford my electric Bills as is."

Five; in addition, the deployments will lower our property values up to 20%. They're unsightly, and will necessitate the cutting down of trees. The beauty and unique qualities of our communities will be destroyed.

Six; there is no oversight mechanism in place to regulate the amount of pulse-modulated microwave radiation that is being beamed out directly into our houses. None.

WILL GINN: Thirty seconds.

JUDITH DE GRAFFENRIED: US foreclosure standard, that guidelines, not a standard or legal limit. The FCC regulations are going back to the nineties and

are not science-based. I'm going fast. Connecticut municipalities are making false and misleading statements by the land use taskforce council websites. Their guidance is creating liabilities to local governments. The local towns do not understand their constitutional authority's obligation to protect our health.

Under the 1996 Telecommunications Act, there is no preemption for health, only for the environment. The town and city officials are obligated under their oath of office to provide for our health.

WILL GINN: I'm sorry. That's time.

JUDITH DE GRAFFENRIED: Okay. Are there any questions? I assume not.

SENATOR NEEDLEMAN (33RD): That would be -- that would be for me to ask. But I'm glad you did, Judith.

JUDITH DE GRAFFENRIED: Okay.

SENATOR NEEDLEMAN (33RD): I -- I don't see anybody's hand raised. So, thank you for your testimony.

JUDITH DE GRAFFENRIED: I just want to say, no one on this Committee has asked any questions regarding the health issues, of anybody presenting the health issues. And I -- I find that very sad. If we're going to worry about equity, we're not going to worry about health.

SENATOR NEEDLEMAN (33RD): We have another 20 people on the list. We appreciate your time.

JUDITH DE GRAFFENRIED: I understand, but not asking too many questions about health.

SENATOR NEEDLEMAN (33RD): Thank you. Thank you so much.

JUDITH DE GRAFFENRIED: Too bad.

SENATOR NEEDLEMAN (33RD): Next on the list, Will?

Will? You're -- you're muted, Will.

WILL GINN: Wow. Well, it finally happened. It had happen eventually.

Next step was going to be Kelly, but she's not here. So we're going to go with Kim Maxwell, followed by Michael Trahan.

SENATOR NEEDLEMAN (33RD): Trahan. We'll let you get away with that. Kim, you're up.

KIM MAXWELL: Can you hear me?

SENATOR NEEDLEMAN (33RD): I can. There you go. You're good to go.

KIM MAXWELL: I'm -- my name is Kim Maxwell. Thank you for hearing me. I don't remember most of your names. I'm sorry. I am president of Northwest ConneCT. I'm also Chair of the Norfolk Broadband Committee.

I would like to not say all the things that have already been said about justifying this or the problems. I would like to say, however, that it seems to me, there really are two problems. One is this problem of accessibility and affordability, which has been discussed at length. But the other is the problem of the quality of the network that we actually invest in.

And we are a strong believer that there is no option, but fiber optics, satellites systems, 5G systems, the current copper systems, are not migratable to anything that fiber can do. And it really should be the state's objective to, over

quickest period of time, to do it -- to get a fiber-optic network installed. However, it gets done.

When a telephone -- when a cable company says they're supplying 1 megabit -- 1 gigabit, they're telling you there's 1 gigabit for split among 150 people. It isn't 1 gigabit. Fiber network and deliver 10 gigabits today for the same price.

The -- the -- let me say something about Norfolk. Norfolk has been -- they kind of target for Northwest ConneCT. We have a business plan put together. I'm having a board of finance meeting this afternoon. It's evening for you. We are close to having municipal financing. The model is a -- the municipal owns -- municipality owns the wire on the poles, and the wire going to the home. Private parties do everything else. The private party hasn't been selected. It could be anyone from Frontier to a wide variety of private, smaller companies. It's the model we propose for the region.

It allows the community to have the good funding opportunity for the wire-only because this contains no electronics, and therefore can get 40 year terms at two and a half percent. It costs very little. By the way, for the region, it is \$100 million dollars probably, for the same model, but that turns out to be about \$5.50 dollars a home per month. It's not a lot of money.

I want to talk a bit about the Bill -- the Bill, we do support over the course very, very much, so. But the OTMR section, I think, needs to be -- I don't know what to do. To actually suggest what you actually do with it.

But, if PURA has the few resources, that if we learned today that they have, putting together OTMR regulation system is not going to be easy. It's a lot -- a lot of moving parts. And --

WILL GINN: Thirty seconds.

KIM MAXWELL: How much? I'm finished.

WILL GINN: Thirty, sir. Thirty.

KIM MAXWELL: Okay. This is all in my report. This is all in my report that I've submitted to you. And that's probably all I need to say right now. Thank you. I can ask you any questions -- I'm here for -- I'm here for any questions.

SENATOR NEEDLEMAN (33RD): Thank you, Kim. And I appreciate that. That's actually very valuable information. The -- I probably agree that, as of right now, there isn't an adequate technology to replace hard fiber. You said you've run the fiber already, or it's just the last connection?

KIM MAXWELL: No, we're -- the business plan is to start, if we get the funding. Which I hope we will get. We will be starting an engineering study in the early summer. That will produce a poll -- poll application that goes to Eversource. Eversource, then reviews the poles, conducts a survey, decides what poles need to be replaced.

Speaking of Eversource, the good part of Eversource is that they do that process very well and in time. What they don't do well, and in a timely fashion, is then replace the poles, which they have to do and pay for it.

After that is a make-ready process. The make-ready process is presently very long period of time because the other attachment -- other poll attaches don't show up to do it. The one-touch make-ready thing is largely about time. Although there is a cost savings as well.

If all that happens in kind of reasonably timely fashion. Considering the way we're financing this, we'll have a network up and running by sometime in

the -- in the early part of 2023. It'll cover every -- every community -- every home. We have a scheme for working out how to connect people. We have people who are half a mile -- two-thirds of a mile from the road, so they don't have a burden.

The business plan is available on the website of Norfolk. I think it is, anyway. If you don't -- if you want it, I'll -- I'll be happy to send it to you if it is not on the website. But we've been working at this awhile. And we've got all the kinks worked out, we've talked to people, we've got every supplier involved. We think we know the costs. We think we know what to do.

SENATOR NEEDLEMAN (33RD): Was this made possible by the -- the municipal gain legislation that was passed three years ago?

KIM MAXWELL: The municipal gain legislation probably wasn't crucial. As long as we could -- we were legally entitled to attach them to the poles. That would have been a question, whether if municipalities could legally attach to the poles; they were able to before.

The municipal gain, it makes the pole attachment-free. And that's a benefit for a very small town. It saves about \$6 dollars a month per column for -- in recurring fees. In a large city, the municipal gain doesn't make any difference in terms of the freedom.

By the way, I forgot to say something in my short time. Was the most important thing. I'm sorry to have missed it. It's very important for the future of Connecticut, in my view, that the State of Connecticut create a capacity in the law for creating municipal broadband utilities. Much as we do for municipal electric utilities. And that is not in this Bill. It wouldn't be difficult to put in this Bill. All you do is you take the electric

utility, legal law in the state, and just stick in broadband. Most of it would be exactly the same.

If we do that. We can start mimicking what's happening in Western Massachusetts. The gentlemen from Charter was right there doing some work in Western Massachusetts. But by far the most common business model in Western Massachusetts is a local municipally-owned utility. There's 13 of them now. They're running fine. They're up and running. Some of them have been up and running for two or three years.

They got half the money from the state. That's the big difference between Massachusetts and us. But the model of having a municipal electric utility, where the municipality has complete control over everything, even if everything is done by a private party like Frontier. You control the prices, you control the -- you control your contracts, you control the people, and it's -- it's -- it's doing -- it's being done all the time around this country now. It's not -- it's not magic. A lot of people know how to do it. And it's a solution to every problem you're talking about today.

SENATOR NEEDLEMAN (33RD): Thank you, Kim. So what you're saying is that the municipalities band together form a municipal or reasonable -- regional municipal broadband entity, and then pick a contractor?

KIM MAXWELL: No. No, we -- that -- that was the original idea.

SENATOR NEEDLEMAN (33RD): Okay.

KIM MAXWELL: But it's really hard. There's some real problems with it. We have a town -- it's going to cost Norfolk about \$4 million dollars to do the trunk wiring on the poles. That comes to about \$18 dollars a month per home on a 30 year long, 3%.

Torrington, a town in our region, the exact same numbers would get you to \$3 dollars a month because they have so many more homes per road.

SENATOR NEEDLEMAN (33RD): Density.

KIM MAXWELL: And it varies greatly over the 25 towns. We're the most expensive because we have the least number of homes. We're 24 -- we're 46 square miles of -- of a town with 850 homes.

So, the original model was to do it regionally. We stopped two years ago and decided to do one town and use that as a model. That was Norfolk. The plan forward is to try to get four or five or six or eight of the towns, like the ones you drilled -- spoke about and Sharon. As -- where we are, get networks going, and then do exactly what the [inaudible] did in South-Eastern part of the state, I think where you are, to form a cooperative.

And, the small-town problem is that you don't have enough money to justify local operations, and maintenance resources, no trucks. It's can also be borrowed, basically from what's been going on in Western Massachusetts. If you've got 75,000 homes, all of a sudden, you could do all of that in your region. Everything becomes self-contained. You have a -- you have a wonderful service system, you've got your own trucks, and it -- and all works great.

So, the migration strategy is, do Norfolk -- the other 10 or 12 towns that already have committees going, working away at it, just as the one in Sharon, some of them will go -- will get to a critical mass, and then we'll combine them into a -- a regional municipal utility. But we can't do that without state law.

SENATOR NEEDLEMAN (33RD): Okay. Thank you, Kim. I'm not sure if I see anybody with their hand raised at this point. There being no one, I really

appreciate your time. That was very, very helpful.
Will? Up next?

WILL GINN: Up next, we have Michael, followed by
Doreen.

MICHAEL TRAHAN: Thank you, Will. And thanks for
the French pronunciation of my last name would have
made my grandmother --

SENATOR NEEDLEMAN (33RD): Trahan.

MICHAEL TRAHAN: Trahan.

WILL GINN: I apologize for that.

MICHAEL TRAHAN: Nope. Would have made my -- would
have made my grandmother in Lake Charles, Louisiana,
very happy. Will, thank you.

WILL GINN: Good to hear.

MICHAEL TRAHAN: I'm here to testify. It's Mike
Trahan with Solar Connecticut, the state's solar
energy business group. I'm here to testify on
Senate Bill 993. This is the third year this Bill
has been brought forward.

Just -- just for -- quick reference for the
Committee, and how this Bill came to be. Four or
five years ago, a large football field-sized project
was installed in Senator Austin's district. It was
likely one of the first virtual net-metered systems
installed in which all the electric power was not
used locally for local benefit. All the power was
uploaded to the electric grid, converted into
credits, and those credits sold off to other
municipalities somewhere off in the state.

So, the local municipality did not get any
electrical benefit. And because the system was
commercial solar, it was property tax-exempt. The

municipality did not get any property tax benefit from either.

She came to us and asked us -- she made it very clear; she was looking for a solution. And we brought to her a law in place in Rhode Island. It is for every megawatt of solar power uploaded to the grid, that developer would owe the municipality \$5,000 dollars. So for the average system of two megawatts of electric power uploaded to the grid, the developer would have a \$10,000 dollar tax Bill to the municipality. Over the 20-year life of this system, that's \$200,000 dollars. The local municipality would also be eligible for credits.

So that fixed, that we propose, that \$5,000 dollars per megawatt, is outlined in our testimony. We have another speaker from Solar Connecticut, who's last, number 69; Will, from Verogy. I hope he stays and presents. He's number 69. He's got some really good information from a developer standpoint.

But obviously, this was not how we envisioned the commercial solar tax to be applied back in 2014 when the Legislature accepted a proposal from Solar Connecticut. So we certainly understand centered Austin's view, and we think that this is the right solution. So I'll leave it at that.

SENATOR NEEDLEMAN (33RD): Thank you, Mike. So we appreciate the industry's willingness to help in this. Obviously, my opinion is that, any solar -- commercial solar array that is primarily used to supply power to the grid, should be subject to property tax. I agree that actually having assessors come up with a number on a town-by-town basis is probably not necessarily the right way to do it.

Although, I know -- I've spoken to other Senators who said that they had 20-megawatt arrays, and the property tax was \$500,000 dollars, which is more like \$25,000 dollars a megawatt.

So, whether the 5,000 is the right number or not, I'm a hundred percent on board with a value. You know, there are these arrays that benefit other parts of the state, and in some cases, probably other states, that are located in the more rural farming communities. And those towns, which are generally not wealthy towns, get no benefit. They don't get the power. They don't get the tax revenue.

So, I'm committed to fixing this without creating more problems. So, you know, anything over five megawatts stays the way it is, and how -- let the assessors do it the way they do it. But we're talking about the gaming that's gone on where there've been three arrays placed on the same or associated properties that aggregate to even more than five megawatts, and they don't pay any property tax. We got to close that loop hole somehow.

MICHAEL TRAHAN: Understood. Where -- earlier from the First Selectman in Stonington who that -- who experienced that -- our Bill, or the -- the corrected language as we proposed would -- would address that scenario.

And I did want to mention that, for the Bill as drafted, would remove the property tax exemption for all commercial solar. So, we hope that the corrected language would allow those businesses who put the money in to put solar on the rooftop to lower their electric Bill would not lose the exemption.

SENATOR NEEDLEMAN (33RD): And -- and I absolutely agree. This is primarily for people who build solar arrays with the primary purpose of selling it to the grid, not for, you know, local use, you know, on their property with a little bit going out to the grid. So, we have to be careful. And I'd appreciate seeing that language cause we want to correct that.

MICHAEL TRAHAN: Very good. Thank you.

SENATOR NEEDLEMAN (33RD): Somebody said that they thought that this would actually -- the way it's drafted might result in a tax on even residential solar, which was never the intent.

MICHAEL TRAHAN: That's -- I'm glad to hear that. Thank you.

SENATOR NEEDLEMAN (33RD): Yeah. Of course. So anybody else have any comments? I don't see anybody.

Will, who's up next?

WILL GINN: Next up is Doreen, followed by Bella.

SENATOR NEEDLEMAN (33RD): Welcome, Doreen.

WILL GINN: She's calling in on the phone, so this may be a second.

DOREEN ALMEIDA: Hello. Hello.

SENATOR NEEDLEMAN (33RD): Hi Doreen. Hi Doreen. We can hear you.

DOREEN ALMEIDA: Hi there. My name is Doreen. And I am opposed to the House Bill 6442, if it includes any form of microwave radio-frequency being emitted into my home. I have a science degree from Boston University, and I've served in healthcare profession, specializing in pediatric neurology for greater than a quarter of a century.

I speak today as an extremely aware individual who has personally been harmed by wireless radiation. And I also speak on behalf of those most vulnerable in the population who don't have a voice. We heard earlier today that the highest responsibility of state government is the safety of our citizens. And we have heard today from the citizens, and we really

need to listen and search our hearts and do the right thing.

I direct you to the work of Dr. Magda Havas, H-A-V-A-S, magdahavas.com. And Dr. Martin Pall, especially a research article at the National Library of Medicine, the title is *Wi-Fi is an important threat to human health*. Here in my little town of Columbia, you can, through the Interlibrary Loan program, enter -- access many important books and resources.

Our library dedicated one month to educating our town citizens about the harmful effects of wireless radiation, and hopes to keep us all safe. You can to read the book *Disconnect* by Deborah Davis or *Wireless Radiation Rescue* by Kerry Crofton. You could view movies, DVDs. *Generation Zapped* is great, *Mobilize*, *Screenagers*. You could get a personal RF meter, and the truth would be in your hands.

Instead of simply an Everybody Learns initiative, which is truly important, I propose an Everybody Lives program. That is what we should be focusing on. In my personal life --

WILL GINN: Thirty seconds.

DOREEN ALMEIDA: -- I am happy to share that, if wireless radiation were to come into my home, I would immediately suffer life-threatening conditions, and would become homeless. Many other people are in this boat. Please, may God help us all, if we are moving towards a state where technology indeed far surpasses humanity. Thank you.

SENATOR NEEDLEMAN (33RD): Thank you so much, Doreen. I appreciate your -- your sharing. And I don't see -- well, I see Representative Mushinsky with her hand up. Representative Mushinsky, it's all you.

REP. MUSHINSKY (85TH): Okay. I just wanted to let the witness know that I have asked for the documents -- the research documents to come over -- be sent over to us. I'm also a biologist, and I'm paying attention to this. But I also know from cellular towers that the threat wears off over distance, and it may be comfortable in this case.

So, you know, for -- there may be more harm to a worker who's working on it. On the structure than to an actual citizen who is more than 25 feet. But I'm trying to get that and place before the Committee. And we're -- and just because we don't respond to the takes on this issue, doesn't mean we're not paying attention to this very long hearing.

Earlier today, I did ask for the information be sent over to us. And it'll come to the whole Committee. So we are paying attention. Thank you.

DOREEN ALMEIDA: Hello. May I respond?

SENATOR NEEDLEMAN (33RD): Briefly, yes.

DOREEN ALMEIDA: Okay.

REP. MUSHINSKY (85TH): Just making sure, we are listening. That's all.

SENATOR NEEDLEMAN (33RD): Yeah, it wasn't a question.

DOREEN ALMEIDA: Yeah. I do want to just make sure that the information you get is complete. Because I did hear the beginning. I have been on all these hours on a landline corded phone from a great distance. And absolutely, I can tell you that the effects are going to be felt by people within their homes, not just the workers. I respectfully really understand, and I hope that you understand as well. Thank you so much.

SENATOR NEEDLEMAN (33RD): Thank you so much. I want to just say one thing, for the record, that I meant to say earlier. Two years ago, when we passed the Bill, the five -- "5G" Bill, the Bill we passed, only allowed for propagation of 5G on public property. On state-owned public property, for that matter.

We are preempted from regulating cell phone companies do. We really would not have the authority to be the ones to say, "They can't put it up in communities on -- on tower." So, I was the one who brought that Bill out. It had more to do with Yukon, and along the Metro-North corridor. It did not have to do with approval of the propagation on 5G anywhere outside of state property. So I just want the public to understand that. And, up next, Will, who do we have?

WILL GINN: Next is going to be Bella Romano, followed by David --

SENATOR NEEDLEMAN (33RD): Weidlich.

WILL GINN: -- Weidlich. Thank you.

SENATOR NEEDLEMAN (33RD): Yeah. Thank you.

BELLA ROMANO: It may just be a second for Bella, cause she's on the phone.

SENATOR NEEDLEMAN (33RD): Absolutely.

BELLA ROMANO: Can you hear me?

SENATOR NEEDLEMAN (33RD): And now, yes.

BELLA ROMANO: I moved from Michigan in June, 2019 to Hartford County, Connecticut, after developing a severe case of electromagnetic hypersensitivity, EHS, which is a neurologic condition caused by harmful levels of EMF exposure. While in Michigan,

I began having migraines that felt like a stabbing sensation in my forehead, loud ringing in my ears, Parkinson's like shaking, and my ability to memorize information diminished. When I reached out to my family, they refused to turn off the EMF that were causing me harm.

I moved in with my aunt, but my condition worsened. I went to the doctor on May 6th, 2019, and told them I felt ill when I went near a cell -- a 5G cell tower, but they told me they don't know much about my condition. At the doctor's office, I bled heavily and felt as if I was going to faint. I bled for three months every day and was deeply worried. I was going to die, trying to get diagnosed, and from bleeding to death.

The only place I felt safer was outside. As a result, I was homeless for four months and fought outside in the rain and snow. No one would help me. I looked up Amish places and discovered it was impossible to live on my own. Amish areas are modernizing, and radiofrequency radiation passes through these communities. As the last resort crying for my survival, I reached out to my best online friend -- my best friend online, who is now my boyfriend to pick me up because I would have tremendous difficulty relocating on my own, and be at risk of fainting or dying.

I was unable to travel by airplane, so we went together by bus. As an EMF refugee, it saddens me that I had to abandoned my wealthy lifestyle, my childhood home, my family, my friends -- and my friends due to my condition. After I moved, my family, who had the money, still refuse to help. And I had to undergo living in my boyfriend's low income, and dangerous area.

As if EHS wasn't hard enough, we both worked hard to escape poverty by doing landscaping, tutoring, and collecting over 25,000 cans and bottles at \$0.5eEach. Whenever my boyfriend goes to work as a

technician, or has to run errands, I am alone, since most people don't want to put up with my disability for long.

I have no one to speak with no form of entertainment. Imagine not being able to socialize, research my condition online, and seek a support group, join my in-laws and my boyfriend for special occasions, being incapable to travel by car, visit a doctor's office, go grocery shopping, limited to make phone calls. And I also can't pay attention to the news nearly as closely as I used to.

EHS is a life-changing medical condition that not only restricts me, but my loved ones, whenever they're around me. The differences that I feel being from the EMS, and they have to live my lifestyle and my company only without the pain. People are social creatures, and it is important for them to not be isolated. That's why I oppose Bill 06442 equitable access to broadband. Thank you. And I'm available for questioning.

SENATOR NEEDLEMAN (33RD): Thank you, Bella. And I am really, really sorry about the health condition. I can hear the pain in your voice, and I know we all can. So, thank you for taking the time to testify today. I don't see anybody that has any questions. But, thanks for your patience. And again, I hope you do feel better.

BELLA ROMANO: Thank you. I appreciate the sympathy.

SENATOR NEEDLEMAN (33RD): Yeah. And, next up, Will?

WILL GINN: Next up we have David, followed by Ms. Connell.

DAVID WEIDLICH: All right. Good afternoon, everybody on Energy and Technology Committee. Thank you for allowing me to speak today. My name is Dave

Weidlich. I'm President of CWA Local 1298 communication workers of America, representing Frontier employees and ATNT mostly.

I am here today to, in part support 6442, but also oppose parts of 6442, and I've included that in my written testimony. I also have a problem with one-touch make-ready in Senate Bill 4, which I'll speak about shortly.

Over the years, and fortunately I've been around many, there has been discussions about expanding broadband service to all Connecticut residents, especially in rural areas.

Over the last few years, there's been an overwhelming number of providers applying for access to telecommunications gain, to place their network on a pole, so they can offer high-speed internet service. There are hundreds of temporary attachments that have the potential to create unsafe conditions because they've not been properly engineered.

Many providers are cherry-picking and overbuilding existing internet providers, thus expanding broadband providers, but not building out to rural areas. Many are exclusive to aerial plant neighborhoods that already have access to high-speed internet.

One-touch make-ready mandates that companies that want to put new equipment on utility poles can move existing equipment to create the necessary space. This is called make-ready work. Moving frontier equipment has been performed by CWA Representative Frontier employees for decades, ensuring safety and quality of the make-ready work.

One-touch make-ready threatens worker and public safety. Make-ready pole attachment work is complex, and if done incorrectly, can lead to dangerous conditions for workers in a public. Unskilled work

would leave heavy terminals and wires hanging without the proper support, ungrounded wires that could pose electrocution risks, incorrect placement, or overloading of equipment on damaged or decaying poles, that could lead to poles failing and falling into the public right away. Skilled professional trained workers who know the equipment, the condition of the poles, and safe practices, can best protect public and worker safety.

Now I've listened to a lot of testimony today. And the one thing that's very, very sure is that, we need money to build out broadband in rural areas. There needs to be funds established in partnership with providers through the government, and I'm hopeful that this government leadership federally, with two Senators and five Representatives, can bring some money back to Connecticut to help expand broadband in the rural areas.

WILL GINN: Thirty seconds.

DAVID WEIDLICH: One-touch make-ready does not build-out to rural broadband areas. There's still costs associated with it that have to be dealt with. I believe we can get the funding and come up with solutions to focus on rural areas, and if it means overbuilding has to wait in order to provide services in rural areas, then that's the direction we should go in. Thank you, everybody, for your time. And I'm happy to answer any questions.

SENATOR NEEDLEMAN (33RD): Thanks, Dave. All good points. I really, really appreciate it. We certainly don't want anybody getting hurt out there. We have any questions? I'm not seeing any. Thanks for your time today.

DAVID WEIDLICH: Thank you all very much.

SENATOR NEEDLEMAN (33RD): Thanks. Will, who do we have next?

WILL GINN: Next up is Ms. Connell, followed by Nora Rizzo.

GIOIA CONNELL: Thank you. Good afternoon, distinguished Members of the Energy and Technology Committee. Thank you for the opportunity to speak in support of House Bill 6572, AN ACT CONCERNING THE ESTABLISHMENT OF ENERGY USE BUILDING STANDARDS FOR VOLUNTARY ADOPTION.

My name is Gioia Connell, and I am a sustainability research consultant, architectural designer, and a board member of the Connecticut Green Building Council. I hold a master of environmental management, architecture, and undergraduate degree in sustainable development. And I am a very proud Connecticut native.

I would like to take the time to advocate for the value of stretch codes as part of the building code universe, specifically the benefits to climate change, energy affordability, and economic development. Firstly, stretch codes are critical procedural elements for responding effectively to updates in the building market, design, and technology. Based codes like the international energy code conservation that Connecticut currently basis its energy code on, inevitably lag behind.

IEC is updated on a three-year cycle, and it takes states additional time to adopt. These new iterations, Connecticut, for example, is still using 2015 language. Because of the nature of code climate and building, experts alike recognize that we need to structure code appropriately to scale modern energy savings and decarbonization measures.

And this is why stretch codes are becoming so much more popular across the country, including our neighbors. By allowing municipalities to voluntarily adopt incremental improvements, stretch codes can accelerate the transition to a more efficient and electric wide building stock. And to

be clear, we need to take these steps in order to meet the state's climate mandates.

Secondly, improved energy codes have the potential to significantly benefit economic development and economic justice. While stretch codes in Connecticut have been held up previously because of concerns over affordability, study showed that development to even higher standards than the one put forward, in this House Bill, can not only be done at no additional cost, but any marginal increase can be paid back within three years.

In fact, publicly funded affordable housing in the state is already designed to a higher efficiency standard than that proposed by the House Bill. Meaning that the stretch code will have no impact on either publicly funded, affordable housing development, nor its pellet costs.

And instead, stretch codes can actually serve as a way for the state to address its high levels of energy poverty. By empowering municipalities to serve their constituents by studying efficiency standards that can save money for their residents.

And in summary, buildings that are designed to higher energy standard, have a higher resale value, attract more talent, and save money for the most impoverished and energy burden populations. And this is really important in Connecticut, where we have the highest energy costs in the nation. And with our surrounding states like New York, Massachusetts, New Hampshire, and Vermont, already implementing codes to address these issues in their -- in their communities, adopting house Bill 6572 as an important effort for attracting, maintaining, responding to needs of residents and businesses alike.

And finally, while it's important to get stretch code passed in Connecticut, I do recommend that DEEP and DIS continued to develop more comprehensive

options. There's a wealth of information, and resources from local experts, think tanks, neighboring states. And there's actually an expert from Massachusetts that will be speaking at a Connecticut-based conference on March 25th, about their experience.

Thank you for your time and consideration, and I am happy to answer any questions. That event will be NESSBE, the Northeast environment -- Northeast Summit for a Sustainable Built Environment held on March 25th, again. Thank you.

SENATOR NEEDLEMAN (33RD): Thank you so much. You pronounce your name, Gioia?

GIOIA CONNELL: Gioia. Gioia.

SENATOR NEEDLEMAN (33RD): Gioia.

GIOIA CONNELL: Yeah.

SENATOR NEEDLEMAN (33RD): Okay. That was a hard one for me to figure it out. And I see Representative Ackert has his hand raised. Representative Ackert.

REP. ACKERT (8TH): Thank you, Mr. Chairman. And Ms. Connell, thank you for your testimony. I'm just been curious. You know, as somebody that's in the building, trades myself, you as an architect, and I believe also Ms. Kops had -- from the Connecticut Green Building Council had also testified, and she was also an architect. Is the designing out there now -- are people not taking advantage of as much energy efficiency as possible right now through, you know, the design, the products out there? I mean the lighting, I mean, everything right now is pretty much developed to be high efficiency, low energy usage. And I'm just curious why a developer or builder wouldn't already be looking for that right off the bat, without any type of legislation being pushed.

GIOIA CONNELL: Well, yes, there are people out there that are absolutely taking advantage of it. But similarly, there are plenty of people that are -- that are choosing to cut capital costs to the detriment of the performance of buildings. It's -- it's always happened that way, you know.

And well, that is not good in the long run either for building owners, developers, renters, and really the public. It's something that can still happen. And it's -- it's the reason why there is code, you know. Like there's code for fire and safety and -- and accessibility. But in terms of energy efficiency, it's -- it's because we need to steward our public -- our public infrastructure and our public health too.

REP. ACKERT (8TH): Now, a secondary question, and you may not know this. I know that the -- when you're supposed to have new building codes last year -- they were supposed to be put out in October of last year. And I believe we were going to go to a newer energy code also. And, do you know if we are -- the state is going to be doing that at all? I don't know if somebody in your field would know if that was going to take place? As a designer of structures, if the state was moving in that direction in a -- in a new energy code.

GIOIA CONNELL: That's a great question. So, what exactly the calendar is for that? I am, not so sure. It's kind of like -- it's kind of like this hearing.

The -- there are options out there to reach to, and it's -- it's just procedural hiccups, which is why I like to think of stretch codes as being a procedural asset. Building codes take a little while to adopt, and allowing municipalities to reach towards what the future is already going to be -- is really important. It's beneficial. And it -- it sort of helps get over that -- that procedural hiccup of -- of taking time to adopt -- adopt code.

REP. ACKERT (8TH): Yeah, I expect -- I'm thinking that they're going to have it out, hopefully by this October, the new codes. What I'm -- what I'm understanding, I thought would be -- would, including new energy efficiency codes.

GIOIA CONNELL: Yeah. The international -- the International Code Council has come out with 2018 codes, which many states have adopted. And they've also come out with the 2021 codes already. That's correct. But Connecticut just needs to adopt them. You know.

REP. ACKERT (8TH): I know. Yeah. [laughter] We're usually a little behind, unfortunately. But thank you for your testimony. Thank you, Mr. chair.

GIOIA CONNELL: Thank you.

SENATOR NEEDLEMAN (33RD): Thank you, Representative Ackert. And thank you so much for testifying today. I don't see anyone else's hands up. Who's up next, Will?

WILL GINN: It was supposed to be Nora Rizzo, but it does not look like she is here. So it's going to be Brittany Kilburn, followed by Dan.

SENATOR NEEDLEMAN (33RD): Great. Brittany, you're up.

BRITTANY KILBURN: Hi!

SENATOR NEEDLEMAN (33RD): Hi!

BRITTANY KILBURN: How are you? I hope you're doing good.

SENATOR NEEDLEMAN (33RD): Thank you for waiting.

BRITTANY KILBURN: Thank you for having me. First, I just wanted to say. I'm not speaking as an expert

or a Representative of a company. I'm just speaking as a mother of two -- two healthy children.

I just wanted to say that, I'm not opposed to providing -- should I wait until he's listening? Can you hear me?

WILL GINN: We can hear you.

BRITTANY KILBURN: Okay. I wasn't sure if he was listening. So, although I do -- I wanted to express my opposition to HB 6442. Although I do agree that everyone should have access to the internet if they want it, this Bill is unclear to me, and it leaves many questions unanswered as to how this internet access will be provided.

No wireless radiation is truly safe. And I, as a mother, am careful not to use my cell phone for extended periods around my children. And I make sure to turn off the Wi-Fi while we are sleeping. But I am reading that 5G is even more harmful than the wireless technology that we currently have.

I already felt uncomfortable with the massive cell towers that are near my home. Actually, there's one next to the neighborhood school where my daughter used to go. And, in nearly every neighborhood in my town, I will be very uncomfortable if a 5G small cell antenna shows up on the utility pole in my yard where my two young children play every single day. We don't have a backyard. We just have a front yard.

So there's no way for them to, you know, simply move away from the street because that's the only area that we have for them to play in. Not -- not to mention that the pole is less than 200 feet away from the bedroom in which we all sleep.

If that happens, I will no longer feel safe in my own house; in my own yard, and I will fear for the health and wellbeing of myself and my children.

They should be able to play in their yard without being exposed to pulse microwave radiation with no way to turn it off.

I should have the final say in whether I want a cell antenna in my yard or in my neighborhood. I am urging you to please consider the ramifications of a Bill like this. I agree that internet access should be made widely available, but I also know that the fiber to the premises is the best, fastest, and safest way to do that --

WILL GINN: Thirty seconds.

BRITTANY KILBURN: -- not by installing 5G, small cell antennas on every light pole. EMF radiation is harmful to all living beings, and installing an antenna on every pole will create a very unhealthy environment for us all. I'd like you to please act accordingly in the best interest of all citizens when it comes to their health, especially small children who we have a duty to protect because they cannot speak for themselves.

WILL GINN: I'm sorry. That's time.

BRITTANY KILBURN: Okay. That was pretty much --

SENATOR NEEDLEMAN (33RD): Thank you. I'm sorry, Brittany. Thank you so much.

BRITTANY KILBURN: You're welcome. I just wanted to add that, New Hampshire actually created a commission to study the health and environmental effects of 5G technology. And I think that would be something beneficial for Connecticut to do so that the concerns of the residents with the health effects could be addressed, and maybe our fears could be put to rest. You know, if it -- if you actually, you know, took the time to study those health effects, and to show evidence that there are no health effects or environmental effects.

SENATOR NEEDLEMAN (33RD): Thank you so much. We really appreciate that. I see. I have two names up. Representative Ferraro, first.

REP. FERRARO (117TH): Thank you, Mr. Chairman. And I just want to assure Brittany that, she may look up at the screen, and somebody may be looking away from the camera because we're all multitasking. But there are a number of people on this call, and we are all listening intently to each person giving testimony, even though, you know, it's been a really long day.

Representative Mushinsky spoke earlier. She's a -- has biological background. I also have a degree in biology, chemistry, and master's in fishery biology. So, the science is really important to -- to me as well.

And Representative Mushinsky has asked for some studies. I've read a lot of studies on the effects of radiation, and high-frequency, low-frequency radiation. And, there are a lot of contradicting studies, shall we say. And a lot of it does indicate that radiation does dissipate over distance.

But you know, there are studies being done, as Brittany has suggested, in New Hampshire. And you know, oftentimes that's the great thing about having 50 different states in which we have 50 laboratories going on at the same time to study these problems. And Connecticut has the opportunity to study what New Hampshire has achieved in their study, and learn from it as well.

So, I just wanted to assure Brittany, she sounds very worried, and I understand, and -- and I feel for her and in her concerns. But I just want her to understand that, we on this Committee share her concerns as well. Thank you, Mr. Chair.

BRITTANY KILBURN: Thank you.

SENATOR NEEDLEMAN (33RD): Thank you, Representative Ferraro. I appreciate that. And -- and I just I want to concur with what Representative said. Many of us are on multiple calls at the same time, right now, and we're looking at multiple screens. Just this is a very unusual way to work. So, we don't want to appear disrespectful. We really appreciate you taking the time to testify. Thank you. And, Representative Mushinsky.

REP. MUSHINSKY (85TH): Yeah, I wanted to weigh in, again. I was just sitting on my porch with two Zooms and one phone, all three of which were working on meeting where I was supposed to be listening. And I'm -- I'm trying to switch screens, and my brain is trying to follow as I go from one screen to the other, and it's a real trick for all of us on the Committee to try to do that.

But, like Representative Ferraro, I'm also -- I'm a biologist, and I also am very sensitive to any of these claims, and do my best due diligence to determine if there really is a risk or not. I know when I looked into this for the cell towers a few years ago when there was one proposed for my town, I did a lot of research on it back then, and there really was a falloff over distance to the threat. And that was my conclusion at -- at the end of all the research.

And so, if you were less than 25 feet from the device, yes, you had an increased risk. If you were further away, you did not. And, I don't know about -- enough about 5G cause it's new technology to me, but I am going to find out.

And, you know, we don't want to do anything that will put the public at risk. Those of us that are following this, do not want to do that. So, we are looking at the research and taking that into consideration when we make decisions.

So I just wanted you to be aware of that, that we take the job seriously. And we do do our research. Thank you, Mr. Chairman.

SENATOR NEEDLEMAN (33RD): Thank you, Representative. And again, Brittany, thank you so much for sticking it out and spending so much time waiting today. We really appreciate it.

BRITTANY KILBURN: Thank you.

SENATOR NEEDLEMAN (33RD): Will, who's up next?

WILL GINN: Next up is Dan, followed by Luisa.

SENATOR NEEDLEMAN (33RD): Dan --

DAN PFLUG: Hi, my name --

SENATOR NEEDLEMAN (33RD): -- you're up.

DAN PFLUG: Hi, my name is Dan. I oppose HB 6442. I appreciate you guys offering connectivity. But testifying on behalf of my daughter. She's six years old. She has PANS. It's a -- that stands for pediatric acute-onset neuropsychiatric syndrome. She has a documented sensitivity to RF radiation. Okay?

And, you know, some municipalities do want to prefer to be wired, and we want to have local control. Eastern Connecticut is where I live, and we have banned 5G in our town. I think Selectman looked at the financial impact, being that property values decrease about 20%, according to the National Association of Realtors. They also considered the health effects, and the fact that we're a farming town and we don't want these ugly small cells in our town.

Lots of people have been testifying about this, and they mentioned New Hampshire and establishing the 5G task force. New Hampshire, they -- in that task

force, they recommended that you do not put this close to people's homes or schools. And that utility pole sits outside my daughter's bedroom.

So I ask you, you know, Senator Needleman, what would you do in my situation, if that was your daughter with that issue, and you had no choice or opt-out?

Richard Blumenthal, our Senator, has raised concerns and issues about 5G over the last two years. He held a hearing in Hartford with scientists. He held a federal hearing in DC with FCC. He asked the -- the Committee -- the industry directly, "Do you have any research on this? Anything to confirm this 5G is safe?" And they said, "No, not at this time. It's too early."

Well, actually, there is research on RF radiation. In 2018, there was the NTP study. The National Toxicology Program was a ten-year study, taxpayer-funded, with \$25 million. And they gave non-ionizing radiation to mice and rats, and some of those mice and rats developed tumors. And the NTP recommended that we do further research.

I don't -- I know you said -- one of the Representatives mentioned, you know, we have different laboratories in different states. I don't want my child to be a lab rat.

I heard the Avangrid vice president - or was it vice BP - executive mentioned that, you know, they want to give their consumers the ability to opt-out of texts or opt into text. We don't have the ability in Connecticut to opt-out of a smart meter. Other states offer that.

You guys should add an amendment to this Bill that would allow Connecticut citizens to opt-out of smart meter in situations like my daughter. I'd be happy to pay a nominal fee, a monthly fee, whatever.

WILL GINN: Thirty seconds.

DAN PFLUG: But I don't need this. So, I think that's about it. Just want to mention, RF radiation is a class 2B carcinogen, according to the World Health Organization. That's not conflicting science. That's 2011. Some of the scientists wanted it to be a class 1 carcinogen on that panel, like smoking. But it's class 2B, same category is lead. So, it's not really questionable. Thank you very much for your time.

SENATOR NEEDLEMAN (33RD): Thank you so much, Dan. We really appreciate your hanging around, and for the testimony today. Well, I don't see anybody with their hand up. Will, who's next?

WILL GINN: Next up it was supposed to be Luisa, but it doesn't look like she's there. So we're going to go with John Emra.

SENATOR NEEDLEMAN (33RD): John. You're up.

JOHN EMRA: Thank you, Senator. Good evening. And good evening, other Members of the Committee. I know the hour's late. You've been there for a long time, so I'm going to try to be brief.

You know, these conversation that have occurred over around 6442, I think, ultimately this issue of broadband comes down to two fundamental issues. Both availability, right, for places where broadband is not available. And second, affordability, for the people who can't afford the service today.

And I want to talk about a couple of things that are going on in Washington DC that I think can help to inform a little bit of what of your policy-making role a little bit.

So, first I think there's widespread belief, at least at my company and at other -- at other companies, and at the FCC that the existing mapping

rules, just -- or mapping tools simply just don't work, right? They provide information that is wholly inaccurate. It is counting people who have broadband, who don't.

So the FCC, last year, the Congress passed a data mapping act to require the FCC to update those rules, to be able to determine with a sort of pinpoint accuracy on an address by address level, where broadband is available, to what extent is available, and from which carriers and at what speeds, both upload and download.

And the Congress appropriated some \$65 million dollars this past fall, as part of the -- one of the COVID relief Bills to actually give the FCC the funding they need to get that mapping completed. That -- that mapping should be done in about a years' time.

So, as the state considers its own mapping, I would suggest that -- anything they're going to do is, frankly, going to be duplicative, but if the state really wants to do some mapping. It feels it wants to be part of that. It ought to follow the same rules of the FCC is establishing the same guidelines, the same definitions, so that the state doesn't go and create one set of maps that are different than the -- the maps that are being created on the federal level, right?

You don't want to create confusion on the part of both policymakers, and frankly, for consumers, right, if you have maps that are in conflict with one another. So that's -- one is; how do you figure out how to -- you know, where broadband is available? Second is; how do you figure out how to actually get broadband to people where it is not available?

The federal Universal Service Fund is a -- is a tool to do that. And Mr. Chowanec from Charter earlier today, talked about the Rural Digital Opportunity

Fund. And that is one mechanism. It's about a \$20 billion dollar project. They're supposed to spend that money over a 10-year period to help to wire and provide broadband where it is not available today. So that project is there; it is funded. It is going to need a lot more money too, in the short run.

And I think that you'll see the Biden Administration, as part of an infrastructure Bill, include a great deal of funding to help get broadband to where it is not available today, but it starts with mapping.

And finally, there's the issue of affordability. And I think there's a lot of good things that are going on there. You know, recently the Congress allocated about \$3.2 billion dollars last fall, to help to subsidize broadband, to provide a \$50 dollar subsidy to Americans who can't afford broadband.

WILL GINN: Thirty seconds.

JOHN EMRA: The most recent COVID relief package that -- that just passed was -- is waiting. I guess the signature of the president that has another round of funding in it. I think all of those things are good opportunities to be able to address the affordability gap cause that is a really big -- big part of the problem. So it is both availability, and more so in Connecticut, the issue of affordability.

So, I want to just sort of bring those -- those topics to mind cause I think that they can help to inform what you're doing as you think about what the state needs to be doing. Cause I think in a large part, Congress and the FCC are -- are taking important actions that can -- to help to alleviate the problems here. So with that, I'm happy to take any questions you may have.

SENATOR NEEDLEMAN (33RD): Thank you, John. I see Representative Cheeseman has a question.

REP. CHEESEMAN (37TH): Thank you. Thank you, Chair Needleman. Thank you for coming here today, Mr. Emra. With regard to the FCC mapping, we'd heard before how it was "faulty." So, do you know what they are doing to improve their data collection to get that more pinpoint accuracy? Because as you said, it occurs to me if that's going to be available to the state of Connecticut, it would make sense for us to avail ourselves of that or at the very least make sure we're not using different methodology.

JOHN EMRA: Yeah, absolutely. I'll give you a 10,000-foot level. You know, I think what the -- the fault with the original mapping that was done a number of years ago, and a couple of speakers talked about this. It is essentially counted a census block area. And if there was one customer who had eligibility to broadband within an entire census block, then it was deemed that a whole census block had broadband access. And that just simply wasn't the case.

And it also, frankly, didn't give them the right amount of specific detail in terms of, who are the providers there? What are the speeds that are offered? What's the technology that is offering it? So, there's new -- there's new mapping project that is underway that the FCC and the acting -- the acting chairwoman has put into place, is just starting to pull together. What are the definitions going to look like?

But it is going to be a specific address by address mapping project. So, you will be able to -- to plug in an address and be able to -- be able to verify whether -- whether broadband is available, what speeds on there like.

And there'll also be a good challenge process that'll be available too, and open to the states. So if the state say, you know, "We don't actually

buy the data at this address." We don't think that's right. There'll be a challenge process, and the validation process that go along with it as well.

REP. CHEESEMAN (37TH): So with that, the states will actually have some input into this, and the -- and the FCC will take those comments into consideration if they need to alter their -- the conclusions they reach and, you know, change -- change the report going forward?

JOHN EMRA: That's correct, Representative. And as I said, I mean, my general sort of take on this is that, the state ought not to do its own mapping, right? I think it's going to end up being very duplicative.

Also understand, this is a lot of money, right? I talked about the \$65 million dollars that was appropriated. I understand that recently the FCC has found another pool of money. So, right now it's probably like about a \$100 million dollars project. It is not inexpensive to do this, if you're going to do it right.

Now, if the state wants to do something -- and I can understand on a -- on a -- on the part of the Governor's Office and part of you all in the Legislature that you want to act and do things. I think that, if you do, then let's make sure that whatever Connecticut does, adds to the process that's going on to Washington and does not create confusion.

So, use the same definitions, use all the same -- the tools that are out there that -- that the fed -- that the federal government is using, and we can provide some additional data to the -- and language to the Committee, if it's your desire to kind of mimic that federal process.

REP. CHEESEMAN (37TH): Okay. And do we know what the, you know, ETA is for the FCC to complete the

data mapping? Obviously, to do an entire country is going to take more time than to just address in one state. So [crosstalk].

JOHN EMRA: Yeah, so, Representative, the -- the -- the goal of the FCC is to have the entire mapping project done in one years' time. There was actually a piece of correspondence that went from a number of members of senior leaders in the Congress to the FC -- the acting FCC Chairwoman, I guess, it was this morning or yesterday morning asking -- actually asking her to try to get that process done even quicker. So there is a real sense of urgency that they need to move quickly for sure.

REP. CHEESEMAN (37TH): And one presumes, once completed or at some point during the process, states will have access to that very granular data to use for their own purposes?

JOHN EMRA: Oh, absolutely, ma'am. Yes, sir.

REP. CHEESEMAN (37TH): All right. Thank you. Thank you. Thank you for your answers, Mr. Emra. Thank you, Chair Needleman.

SENATOR NEEDLEMAN (33RD): Thank you so much, Representative Cheeseman. And John, thank you so much. I'm looking forward to the day when I actually can make phone calls, and hold them. And I know you guys are trying to work on that. So, you know, I'm going to always bring that up.

JOHN EMRA: Yes, sir, I do. I always look forward to.

SENATOR NEEDLEMAN (33RD): All right, John. Take care.

JOHN EMRA: Thank you. Bye-bye.

SENATOR NEEDLEMAN (33RD): Take care. Will, next?

WILL GINN: Kyle Wallace, going to be followed by Erin.

KYLE WALLACE: Hello.

SENATOR NEEDLEMAN (33RD): Olivia is -- Olivia is not on?

WILL GINN: Doesn't look like it. If she does get on, I'll add her.

SENATOR NEEDLEMAN (33RD): Okay, great. Thank you. I'm sorry about that, Kyle.

KYLE WALLACE: No problem. Thank you, Chairs, Needleman and Arconti, Ranking Members, Formica and Ferraro, and all Members of the Committee. Today I'm here in opposition to Senate Bill 993. The opposition though that I would want to start with, that it's -- it's not necessarily opposition to the stated intent of the legislation and the issue that has been brought up in the other testimony earlier today. It's just that the language currently in the Bill wouldn't actually solve that problem. And in fact, it would create a second problem. And so, it's really just a matter of that current language.

As drafted, the Bill would eliminate the residential solar property tax exemption, unless the project was over seven megawatts on a -- on a homeowner's home. It would not affect non-residential systems whatsoever. The non-residential section is Section D, it's been cited in multiple testimony, but the language is currently in A. So that's our main concern. It's just kind of the current status of that language.

We don't have a real position on, you know, whether the seven-megawatt threshold is correct, or whether there is the correct level for taxation for those larger grid-scale type projects. And -- and so I defer to other developers who -- who would be affected by that. But just want to ensure that

there's not inadvertent damage done to the residential sector through this Bill.

And I would just note that, even if you took this language and moved it to Section D entirely that would still remove the exemption for all small commercial systems as well. So there -- there probably should be some work that tighten that up to make sure it's really targeting the projects that it's intended for. So I -- I'll stop there, and happy to answer any questions.

SENATOR NEEDLEMAN (33RD): Thank you, Kyle. Point well taken, duly noted. And we know we have some work to do on it. But I am grateful to hear that the identified issue is not something that the solar industry has a problem with. So, thank you. We want to make sure that there are no unintended consequences. Thanks for waiting so long today.

Will, we have four left. Who we got?

WILL GINN: The last three are going to be Erin, Joan, followed by Will.

SENATOR NEEDLEMAN (33RD): Erin, Joan. So, Olivia is not on you said.

WILL GINN: No.

SENATOR NEEDLEMAN (33RD): Okay, great. So, Erin, you're up.

ERIN MARIANO: Thank you. Good evening, esteemed Members of the Committee. I know it's been a long day, and I thank you for hearing my testimony. My name is Erin Wallraff Mariano. And I oppose HB 6442, in its current form.

I'm a small business owner and mother of three young children. I'm also a teacher. I appreciate the work that you're doing, trying to balance needs and concerns, and I know that the task is complex.

As an adjunct professor at one of our state colleges, I do understand that stable connectivity is an issue for a small percentage of students and families. I strive to work around those issues with my students when needed, and certainly want everyone to have equal access to a fast internet. But I fear that this Bill, especially if passed in haste, will swing the door wide open for technologies which have not been properly regulated.

After listening to most of today's testimonies, I see that I am not alone. It appears that safety is the number one reason for opposition. I ask that you oppose this Bill, and that you support it only if changes are made in response to the legitimate safety concerns that have been raised by residents in this hearing, and in written testimonies.

In the past year, because of COVID-19, local and government policy has been centered around protecting human health at all costs, even the cost of convenience. Virtually every normal function of our public and private lives has been altered for the stated purpose of protecting the health of our most vulnerable populations.

In this context, it is important to note that this Bill, in its current form, would pave the way for blanketing the entire state, including schools and private residences with unregulated and unprecedented levels of radiation. While this may achieve the goal of more equitable access, consider, that it will likely negatively impact the health of the very populations we're trying to help.

I personally know several people who have lost their lives to glioblastomas, brain cancers that have been linked to this kind of radiation in the last ten years. This does not even touch upon all the other cancers and chronic illnesses that have become commonplace in the last couple of decades.

Undoubtedly, there are multiple contributing factors, but this explosion in illness correlates with the implementation of wireless technologies. Faster, more reliable connectivity to the internet is useless, if we are constantly suffering immune system dysfunction, as a result.

I implore you to read the many studies that do exist in regards to biological harm. And to realize that 5G technology is vastly more powerful and dangerous than previous generations of wireless technology.

Please follow up with the people who have testified here today, especially those that have spent years painstakingly researching this topic. From bodily harm to the collapse of pollinators --

WILL GINN: Thirty seconds.

ERIN MARIANO: -- and property values, there are a wide range of negative impacts, I asked you -- I ask you to consider.

There are viable options for achieving greater connectivity with safety in mind. It is my understanding that fiber to the premises without Wi-Fi is affordable. Local municipalities and private citizens should have the right to opt-out of wireless technologies, such as smart meters being installed on or close to their homes, that may adversely affect their health and environment.

In closing, I would like to make one last request. If the Committee finds itself weighing financial considerations against safety, I would hope that the concern for our physical safety would win out. Thank you for your time.

SENATOR NEEDLEMAN (33RD): Thank you so much. I appreciate your testifying. And I want to reiterate one more time, that the State of Connecticut does not regulate 5G. It is the federal government that

operates that -- that -- the telecom companies operate under their jurisdiction, not ours.

So, I'm not sure that there would be anything we could do, even if we wanted to, but -- so I just want to be clear about that. I understand that there's a concern on the part of some people, and I respect that. But I'm not sure what we could do anyway about that.

ERIN MARIANO: Well -- I'm sorry. I realized that wasn't a question. I would think, hopefully, in the language of the Bill, you could maybe specify some of these just specific protections against certain devices that are harmful. That was all.

SENATOR NEEDLEMAN (33RD): Thank you so much. And, I think we have one last person. Will?

WILL GINN: Two more.

SENATOR NEEDLEMAN (33RD): Who?

WILL GINN: Joan, followed by Will.

SENATOR NEEDLEMAN (33RD): Great. Joan, you're up.

You're muted, Joan.

JOAN POLZIN: Okay. Can you hear me now?

SENATOR NEEDLEMAN (33RD): Yup. Now we --

JOAN POLZIN: Thank you. I'm Joan Polzin. I've been a resident of Connecticut for over 40 years. We live in Brookfield. And I want to thank the Committee for allowing me to speak tonight. I am against Bill 6442, also. And I'm -- I'm going to read some of my testimony, and then just go off a little bit because many people have already said many of the things that I would have wanted to say.

And that would be confirming that the science -- solid science supports the belief that we are vulnerable to electromagnetic frequencies that are much higher than our natural electromagnetic systems in our bodies, and that interfere with the processes of our bodies in ways that cause a lot of different biological problems, illnesses, and disorders.

I attested and affirm -- and affirm that the following statements are true, accurate, and within my personal knowledge.

I would like to provide testimony based on my two years of investigation into my daughters untimely death at the age of 40, from glioblastoma multiforme, a fatal brain cancer.

The year was 2010. Seven years later, in 2017, I became aware of the national toxicology program study, which several people have mentioned as a huge, very outstanding study that was came out -- came out with results.

Two particular results that caught my attention. One was, one of the cancers that occurred with [inaudible], which is a heart tumor, where there was clear evidence, which means that, from my understanding, the scientists at that time around 2017, recommended that the cancer threat level will be raised for electromagnetic radiation or waves. Based on that clear evidence, the NTP website National Toxicology Program website, has a paper written on their peer review from 18 peers, indicating that the study was very well done.

We hear a lot of different stories and a lot of different sides to the questions. And there are some very typical ones that we hear about the study from industry people who are --

WILL GINN: Thirty seconds.

JOAN POLZIN: -- heading toward the industry.

Okay, well, what -- then I'm just going to finish with asking you if there's a way that our state could form a health -- an investigative health committee to take a look at the science. It was actually a scientist who was -- the industry, a long time ago in the mid-1990s, tried to get him fired from his position in -- in -- his name was Dr. L-A-I, I think.

And he did a study on who funded which studies. So, it's really important what you look at, and it's really easy to read science articles. So, all you need to do is read the abstract and the conclusion, even if you've never read a science article before. I wish people would just find out the truth, and that's what I'm asking you to do. And do whatever you can to help people keep these things out of our environment.

These units, these small cells, are not going to bother us that much indoors, I don't think, unless we put a receiver end for 5G, but they will blanket our outdoor space. Every time we go outdoors, we will be exposed to those, and the microwaves. And there is research on the damage of microwaves. A lot of research, old government research, new research.

And I just -- I'm asking pretty much the same thing. And I think, other people who've been badly affected. There's a wonderful documentary called [crosstalk]. You can see what's going on in Europe. There's a lot to look at and learn from. Thank you.

SENATOR NEEDLEMAN (33RD): I want to thank you so much, Joan. And I am incredibly sorry for your loss. Just a unbelievable tragedy, and I cannot imagine it. So --

JOAN POLZIN: I'll show you a picture of my daughter. I don't know if I'm on anymore, but.

SENATOR NEEDLEMAN (33RD): Oh, you are. And I just -- words can't describe the pain, and I've never experienced it. And I'm so sorry that you have.

JOAN POLZIN: Well, I'm looking for the future and for my son and his baby and your children and your families and everybody, because we are all affected by this already. We've got it loaded in our houses already. And people -- and I understand -- I just came across a statistic that the 60% of people in America have a chronic disease.

ADHD is -- these things are booming. Yeah. Right. There are many different poisons and toxins in our environment. But this is one of them. It's invisible. You don't feel it. It takes a long time. And people only seem to react to immediate threat. It's sort of our nature. But this is a real threat. And once it happens to someone in your family or yourself. You know, it's too late already. Let's try to stop it.

SENATOR NEEDLEMAN (33RD): I appreciate that, Joan. I see Representative Mushinsky has her hand raised.

REP. MUSHINSKY (85TH): No, I wanted to -- I wanted to express my sympathy for your situation. I lost my mother two years ago to the same disease, glioblastoma. However, the doctor said it's -- cause I said, "Where does this come from?" And the doctor said, "Well, it can even happen from, breast cancer cell can move up through -- through the body and lodge in the brain, and start a new cancer there. It could even happen from a breast cancer."

So, I mean, it's -- it's really -- yes, it's -- glioblastoma is more common now than it was. And we're not sure why.

JOAN POLZIN: Can I --

REP. MUSHINSKY (85TH): But there could be many reasons for it. And, in my mother's case, there could be many reasons for it.

JOAN POLZIN: Okay.

REP. MUSHINSKY (85TH): She did have breast cancer previously, and she could very well have developed the glioblastoma from the breast cancer. So -- I mean, if we're going to say, for certain, that it was microwave radiation -- radiation, we better be -- we better have our science straight.

And I don't think it's clear that there's a connection over distance. I don't think that's clear yet. I'm sure it's true in the lab when you've got the microwave right next to the test animal. That's probably clear. But over distance, I'm not sure that's clear in the science. And I'm researching it now, and we'll share whatever I find with the Committee.

JOAN POLZIN: Please look at the peer review report on the NTP site. Just go to the end, and read the conclusions. The study was excellent. You can't -- that's what people are going to tell you, you know, it was too much radiation, or the animals lived longer. Well, we live longer now too, but we don't live healthy. Who dies from natural causes anymore? So --

REP. MUSHINSKY (85TH): Joan, if you have something to share, can you email it to us? That would be helpful. [crosstalk] If there's a study you want us to see, can you email it to us?

JOAN POLZIN: I'd be glad to do that. Thank you.

REP. MUSHINSKY (85TH): Okay. Thank you.

SENATOR NEEDLEMAN (33RD): Thank you, Representative Mushinsky. And we have one more, Will?

WILL GINN: Yeah. And the last person is named Will.

SENATOR NEEDLEMAN (33RD): Will.

WILL HERCHEL: Hello everyone. Thank you very much for the opportunity to speak this evening. I know it's the end. I'm the last person to go. I'm going to testify on Senate Bill 993. And it seems a little less significant, after the last testimony we heard, but I'll try to be brief, and to the point.

So, specifically like others that I think have testified today, the way that the Bill is drafted is not, in our opinion, the intent of the legislation. I agree. And I -- my company, which is a solar-based company at Hartford, Connecticut, is focusing commercial and industrial solar.

We agreed that we need to eliminate the property tax exemption for virtual net-metering projects and close that loophole, which I think is the justification for the -- for this legislation to begin with. We do suggest and agree that there should be a fixed per kilowatt AC amount for property taxes, so that there's certainty in the marketplace that allows us as developers to go out there and develop. And to do so without, you know, sending virtual net metering credits to other municipalities that are not the host municipality creating this -- this issue that has come up, and I think is the -- the genesis of this -- of this legislation.

This Bill should not remove the exemption for behind-the-meter solar. So, projects that are behind the meter, that are delivering power onsite, that are not exceeding the annual usage, residential or commercial, industrial should not be eliminated. I don't think that's the intent of this Bill, but it really needs to be changed to address that.

I would just stress for one more thing, and then I'll take questions cause I know it's the end of the day. That it's extremely important from a developer, from the solar industry here in Connecticut, that we have an understanding of what the costs are going to be for us, as we develop these projects. We want to make sure that municipalities are getting the benefit that they need to get. But there can be some games being played in all of the state programs and the auction mechanisms, and giving the lowest cost the ratepayer, if you can play around with those municipal tax rates.

And so there's some inequities there that can be resolved through standardizing this. I think \$5 dollars per kilowatt AC, 5,000 per megawatt ACs been what has been proposed. That's a good number. That's a number that Rhode Island uses, and that's right -- right in the strike zone for when New York uses to give you the best bang for your buck to the ratepayer, as well as giving the municipalities, the revenue that they need.

Last thing I'll say here with limited time is just that, these solar projects do not drain on the public resources. I think that's probably been delivered to you as a message today. These -- these are out there. They're not going to schools. They're not using the water, et cetera. They're not using the roads. So, they really are a very good vehicle for returning value to the host municipality. But thank you very much. And I'd be happy to take questions.

SENATOR NEEDLEMAN (33RD): Thank you, Will, really appreciate that. Message has been delivered loud and clear. I'm not sure if I see any questions from anybody. I'm not seeing anyone. I want to thank everyone for all their patients and the time they spent.

We heard a lot of testimony about a lot of different Bills, and -- and I really appreciate everyone's attentive this -- to this. And, thank you. I think that brings the public hearing to a conclusion.