FHLBank System at 100: Focusing on the Future Roundtable Discussion – Wilmington, NC - 03-06-2023

Please note that this transcript reflects corrections to inaccuracies in the real time closed captioning in the roundtable video

Chris Bosland: Good afternoon and welcome to today's event. This the 14th of the Federal Housing Finance Agency's Federal Home Loan Bank System at a hundred. Focusing on the future round table, though this is the 14th, it is by no means the least important. Those of you who are FHFA Junkies will know that climate change is a priority in the strategic plan for the agency. And today's event will focus on the federal home loan bank's role or potential role in supporting climate resiliency. To that end, we'll cover the phases of the disaster cycle for mitigation to preparedness, to response, to recovery. We'll also focus on the risk management practices and principles and discuss measures that have been taken and will need to be made to increase consumer awareness and consumer protection. As always, this event was also being live-streamed so we can reach as many stakeholders as possible. We look forward to today's discussion and the feedback we receive. We've got a distinguished panel, and beside me is Karen Burk, who is a senior examiner with-

Karen Burk: Associate Director.

Chris Bosland: Associate director, excuse me, at FHFA in the division of Federal Home Loan Bank Regulation. And I'll turn it over to Karen who will review the rules of engagement. Great.

Karen Burk: Thanks Chris. And thank you all for being here. We expect and hope that we will have an open and engaging discussion today among all of us. No recommendation or view should be construed off the table, and we encourage you to offer differing views about some important questions that we will be covering this afternoon. We also want this to be orderly. As such, we first ask that everyone turn their name placard to the side when you want to respond to a question and we'll call on you. We ask that everyone engage in a respectful manner, knowing that we may not agree on all points to ensure that everyone has a turn to speak and that we cover every discussion topic. If someone is going long, we may interject to keep the conversation going. Second, this review is meant to bring forward the views and reason perspectives of the Federal Home Loan Bank System stakeholders and highlight areas for further consideration. We ask that you not limit your responses to what you think would be possible under the current conditions or the current framework of the system. Third, that we'll have a break roughly halfway through the event. And finally, for the benefit of those in the audience, the round table participants have been given a set of prompts that we will reinforce during the course of this afternoon's discussion. And we have a disclaimer that I need to read verbatim, so I'll do that now. So we have organized this round table to obtain your input on the mission of the federal home loan banks, including input on several specific questions that were sent to you prior to the meeting. During today's discussion, FHFA will not discuss the status or timing of any potential rulemaking. If FHFA does decide to engage in a rulemaking on any matters discussed today, this meeting would not take the place of a public comment process. The rulemaking document would establish the public comment process and you would need to submit your comments, if any, in accordance with the submission instructions in that document. FHFA may summarize the feedback gathered at today's session in future rulemaking documents. If we determine that a summary would be useful to explain the basis of a rule making. Anything said in this meeting, and that also includes reactions, nodding, eye rolling, should not be construed as binding on or a final decision by the director of FHFA or FHFA staff. Any questions we may have been focused on understanding your views and do not indicate a policy or legal position. Participants in today's round table may have a financial interest, whether direct or indirect on outcomes that may affect the federal Home loan banks and their businesses. As Chris mentioned, today's round table will be live-streamed on FHFA's website and video recorded. FHFA may also prepare a transcript of today's session, which would include the names of all speakers and the organizations they represent. The recordings and any transcripts prepared will be posted on FHFA's website and YouTube channel along with any materials being presented today or otherwise submitted in conjunction with this round table. So with that I'll turn back to you.

Chris Bosland: Thanks, Karen. And we all love our lawyers, don't we? It's a very, very comprehensive. Just so before we get started, we'll do some introductions. We, most of us had a chance to meet a little bit beforehand, but for the folks particularly watching the livestream, I'll ask you all to take turns introducing yourselves and who you're representing, any involvement you have with the home loan banks, if any, and then how your work touches on the topic that we're going to be discussing today. So let's start with Steve and work our way around.

Steven Rothstein: Sure. Thank you very much for hosting this and for the invitation. Steven Rothstein, I'm the managing director of the Series Accelerator. Series is an advocacy group focused on sustainability issues. We have no business relationships with Federal Home Loan Bank, but we've submitted lots of comments to FHFA and other agencies.

Caroline Nagy: I thank you so much for organizing this event and having me here today. I'm Caroline Nagy. I'm a Senior Policy Council at Americans for Financial Reform, focused on housing, climate, and corporate control of housing. Americans for Financial Reform Education Fund is a nonprofit that fights to eliminate equality and systemic racism in the financial system, in service of a just and sustainable economy. And we also do not have business before the Federal Home Loan banks, but do have lots of opinions.

Chris Bosland: Perfect.

David Beck: Hi, I'm David Beck. I'm the policy director at Self-Help. We are a community development financial institution headquartered in Durham, North Carolina, and operate nationwide. Our mission is to provide access to credit to low income communities and individuals, particularly minority families, rural families, and female-headed households. And we are a three-time member of the Federal Home Loan Bank through Self-Help Credit Union, Self-Help, federal Credit Union and Self-Help Ventures Fund, which is our nonprofit non-depository CDFI loan fund.

Miyuki Hino: Hi everyone. I'm happy to be here. My name is Miyuki Hino. I'm an assistant professor at the University of North Carolina at Chapel Hill in the Department of City and Regional Planning. My research addresses the impacts of climate change on social and economic outcomes, particularly housing markets, as well as other aspects including migration. I also study public policy and the role that it can play in supporting more resilient and more effective adaptation moving forward in communities, for instance, through land use planning and disaster recovery policies that serve more equitable outcomes.

Richard Moore: Good afternoon. I'm Richard Moore. I'm sorry I didn't get a chance to say hello to anybody at lunch. I'm the CEO of First Bank Corp. We are just under 13 billion dollar institution, primarily in North Carolina, but we have a pretty decent market share in large portions of South Carolina. We're about a 90-year-old bank that does a little bit of everything. And one of those things is we are one of the owners of the Federal Home Loan Bank board, a member/owner, whichever term you want to use.

Chris Bosland: Thanks. Karen?

Karen Burk: All right. So, as we said earlier, today's discussion is not a scientific discussion on the underlying causes of climate change, but instead, we will focus on the Federal Home Loan Bank's role or potential role supporting the climate resiliency phases and also risk management. So let's do a quick round-robin to set the table for this discussion and lay out potential discussion topics. We have a few in mind, but we also want to hear your ideas. So climate, what you would like to discuss about the various aspects and implications of climate related and natural disasters. This could be the physical risks mitigation, it could also be transition risks or other challenges and risks that you have thought of. And at this point, we're not asking to get into what the roles could be for the banks, but more of just getting the topics on the table. So start with Richard.

Richard Moore: Which just saw off a piece of that or what-

Karen Burk: Just what do you think would be useful topics to talk about here? So I'll name one to get us started. So resilient building, right? Is it be an aspect of climate resiliency, but also just wanting know what other topics you all think would be worthy of discussion. Steven.

Steven Rothstein: So, I don't want to take a few-

Richard Moore: No, no, no, please go ahead.

Steven Rothstein: So, I think climate affects every element of the business, kind of if you think about what element would inflation or something else. So I think there's both physical and transition risk and every element of the process from the education of the consumer to the process flow, to mitigation to remediation, and then the relationship obviously from the Federal Home Loan Banks to FHFA and then the consumer element. And as several of our folks said earlier, all of this more directly impacts low wealth communities. So targeted for the particular needs for low wealth families.

Caroline Nagy: Yeah, I'll go. I think a lot of what has already been said, but particularly within the context of the FHLB at 100 reexamining the mission, looking at how this system can be used to leverage more financing for getting communities ready to deal with climate change, assisting folks who have been impacted by natural disasters and thinking bigger about what housing is going to look like when there are increasing amounts of land that are not ideal for building housing on.

David Beck: Yeah, I was just going to say resilience, just looking at the question, certainly incenting more resilient housing, but also remediation. How do we deal with, we were talking at lunch about flood insurance and making sure that reaches more people and more people are covered, not just flood, but natural disaster. I mean, one of the things I'm always shocked about after these tornadoes and such in the news is if you own your home outright, odds are you do not have insurance on your home because the bank really demands that. And if you don't have a bank then, and that's a real issue in climate. So is there something the banks can do about that?

Karen Burk: Great.

Miyuki Hino: I would just add two things. One is discussing education and access and affordability of options that residents in risky places have to both transfer risk through insurance and to reduce their own risk because I think over insurance can only do so much. And then more broadly, looking at considering how climate change might affect inequality within and across communities, not just through housing channels, but also through other economic channels as well.

Richard Moore: Well, there's no getting around the fact that climate change is affecting everything everywhere, Steve, as you just said, we need more housing. It needs to be built in the right place. It needs to be more resilient. And how all that rolls into being affordable is going to be incredibly difficult. I'm not quite sure what direct role or perhaps I'm not even clear about an indirect role that the Federal Home Loan Bank board has to do with this topic, but I look forward to learning.

Karen Burk: Great. Well-

Steven Rothstein: Just another question, yes, I think about is what should be done at one of the 11 bank levels versus at a national level. There are a variety of issues there.

Karen Burk: Yes. All right. So I appreciate hearing those thoughts. And I think our questions, our prepared questions cover the lion's share of this and we'll certainly provide opportunity to discuss all of this. So how we have it organized, the discussions kind of organized around resilient building, disaster recovery efforts, risk management and trade-offs, consumer awareness, consumer protections, and then transition risks. It's kind of how we have it organized, just to give you a heads-up on that. So we'll go ahead and start with a deeper dive into preparedness and mitigation resilient buildings. And some of these questions starting off are broad, but what do communities need to create and support a strong supply of sustainable, affordable, and resilient housing? It's very, very broad.

Steven Rothstein: So, the HL Mankin once said, for every complex problem a simple answer is always wrong. So I don't want to say there's one answer, but a piece of it would be as more information that there's an asymmetry now of information if you're a homeowner or a renter, or even if you're a developer of a reasonable size and an agency. So there needs to be more information at the time of closing at the FHFA level, at the Federal Home Loan Bank, at the developer level, so people understand what is their risk, either as a renter, developer, financier owner, and then to look at and understanding what the solutions are. That's a bucket of work, but more information needs to be there just as there is at the time of closing.

Karen Burk: Caroline.

Caroline Nagy: I'm going to also give a one-word answer. In addition to information, we need money. Particularly preparing communities to cope with the risks of increased disasters, whether it be fires out west, rising sea levels, dangerous heat. They really require an investment in pre-disaster resiliency planning. To the extent possible, communities that have engaged in planning processes are better equipped to respond. And then in the post, obviously in the post-disaster context, a lot of very immediate cash assistance needs, but really financing for the construction of housing that is not going to be in harm's way, that doesn't further carbon emissions and ideally housing that is as far out of harm's way as possible. I mean, thinking about the 3 million Americans who lost their homes to natural disasters each year and the fact that many of them are not going to be able to return. I mean, thinking about where we would like new construction, ideally denser construction, denser housing, close to public transportation to continue to have a lower carbon emission housing options for folks.

David Beck: So, thinking about resilient housing, I think one thing is some sort of best practices navigator. One of the, I guess the hurricane that hit Tampa, there was a story. Richard, you have Wake Forest roots, do you not? I think he's a Wake Forest football grad or something, have built this community, this resilient community south of Tampa that was basically unaffected by the hurricane due to his building techniques and also to the energy efficiency of the subdivision. And so highlighting those and learning from those sorts of projects, I think is a valuable role for the GSEs. And then also on the money side, incenting those sort of products, is there a more favorable haircut for projects that incorporate best and latest practices and energy efficiency and weather resistance?

Miyuki Hino: Adding to that, we know that there's lots of different forms of structural changes that are cost beneficial in the long term. We're talking about spending a dollar to save four, six, 8 dollars over the lifetime of a building. And we've seen this in studies again and again. The newest building codes we know can be incredibly effective in the face of storms, fires, you name it, the engineering technology is there. But even in places where the newest building codes are being aggressively adopted, there's so much existing housing that is older and not built to code or not built to the newest codes. And even though investments in upgrading that infrastructure would save us collectively money in the long term, the upfront financing to make those investments doesn't exist. And oftentimes the insurance costs may not be adjusted in reflecting those investments that are made. So for example, with The National Flood Insurance Program, at least the pre risk rating 2.0 version, so the way that the pricing works, it's not so flexible as to account for all of the different changes that a homeowner might make to protect their house. And I think that's true of fire risk as well. And so in terms of incentivizing those changes, thinking about ways that actors with more local and community scale knowledge can help bridge that gap between making the upfront financing possible and knowing that the cost savings are going to be there just in the long term, not immediately.

Karen Burk: Thank you.

Richard Moore: I think you were wise to divide it into two buckets that way. New construction versus what is already out there. The new construction piece should be easier to answer, should be driven by building codes and zoning. And certainly that can't all be left up to local government, particularly with the planning money. I do know that most of the states have got much better mapping that you would like to be led by the insurance industry. So there's so many homeowners out there. We are right now, we're in this really weird inverse relationship. People who live in a red line floodplain know that they have a problem and they know they have to have insurance. But what we're seeing is more because of global warming, we're seeing more and more storms that are affecting people who are way outside of those areas. And they have little or no coverage right now, and new construction is going on right there in the same way that it's already been going on. Hopefully there are ways to address that, what you do with the housing stock and the development of the neighborhoods that we already have. Boy, that's just such a mountain. I don't even know how you begin to climb it.

Caroline Nagy: Yeah, I wanted to elaborate further on the issue of folks who live in homes that were built before modern flood protection standards as someone from the northeast of the country specifically spent a decade in New York City where about 80% of the housing in the floodplain was constructed before the National Flood insurance program was created. And it's probably out of compliance, but the truth is that we haven't even really sent engineers to actually check out like the elevation and know just how much of a problem it is. These individuals, there's a lot that folks can do to protect their homes and their properties. Obviously insurance, and I think insurance is going to be a theme that comes up quite a bit here. But I mean, I think also, yeah, affordable, accessible financing for individuals to undertake improvements to their homes such as storm drains, elevation of mechanicals, the most expensive part of a house, pretty much from the basement to higher floors and things like that. And they need information. I would say housing counseling, since we have a very large network of housing counselors in the US to understand a lot of the in personal finance aspects. I mean, yes, right now trained to deal with mortgage foreclosure, but a lot of these issues are really similar. And I think particularly with at the individual level, having financing that is not exploitive, that has all of the robust consumer protection standards that we would expect. And I mean, I mentioned this specifically because we've seen with the rollout of the PACE lending program, a lot of terrible incentives where you allow contractors to originate financing that puts someone at risk of a lean fork tax lean foreclosure, when folks might not even be speaking the same language. Might have limited English proficiency, might think that they're being signing up for something that's free when they're not. I mean, obviously I can get into the consumer protection issues like later, but I mean, think it's very important to be very thoughtful about the design of these programs before you start getting waves of folks who've been ripped off and who are probably not going to trust these programs again.

Karen Burk: So, I'm going to move on to the next question and we can continue to build on that very broad first question. How and where can financial institutions engage in preparedness efforts?

David Beck: Oh-

Karen Burk: Let Steven-

Steven Rothstein: No, David now-

Chris Bosland: You all had been going in order and now we're breaking it up. I don't know.

David Beck: It's messing with you. This maybe goes back to the previous question more than the current one, but I think it fits is one, we did a report on climate resiliency and community financing last year, and one of the ideas or we had was for the GSEs and the federal home loan banks to require energy efficiency appraisals or to incent requirement of it. So to get to Richard's question about the mountain decline for existing houses, every time that home sale sells is an opportunity to have that evaluated in terms of where it is, what could be done, and how that might affect a borrower's LTV. If it's more efficient, they are going to have lower heating and cooling costs, and that makes it more affordable then. So that's it.

Steven Rothstein: So, at a macro level, first at the financial institution, the bank or credit union need to understand what their risk portfolio is. Just like anything else, we've done a separate report, one on physical risks, one on transition risks, one on credit unions, and identified hundreds of billions of dollars that we believe are in the balance sheets today of banks that are being under reported. So first understanding the risk, but then their range of issues from, I agree on the energy efficiency. One simple idea is to give an incentive if they've used the Energy Star program, an EPA program or state by state energy audits so that there's a discount there.

Others to look at the capital reserves or the banks. And that I know very unpopular, but you know that if they are looking at these issues, the capital reserves might be a little less because their risk goes up. The other one is to encourage, manage retreat. That, again, politically unpopular. I understand that, but the reality is, as Carolyn said, over 3 million people last year lost their homes some temporarily, some long term. The reality is not everyone's going to live everywhere we want in 2050. Is it better to do it a managed or a long-term way? And then there's a whole plethora of insurance related areas that financial institutions can support from parametric insurance to micro-insurance others that I'm happy to talk about later on.

Chris Bosland: Karen, can I [inaudible 00:25:43] I think those are some topics that we're definitely want to get into a little bit more in-depth. And I had read some of your things that Sirius had submitted Razo, so I think that'll be great. But Richard, let me, since you're wearing the banker hat today, you drew the straws that represent all bankers. No, but we in this discussion about knowing the risks and the changes that you alluded to that we're all facing, I mean, just can you give us a sense of how it's impacting your bank today, climate issues and-

Richard Moore: Oh, sure, sure, Chris. I'll be glad to try to do that. But I guess I've worn so many different hats in my life that may come into play here. I was the Secretary of Public Safety for the state of North Carolina and in North Carolina, that person is the lead administrator under the Stafford Act, which created FEMA and I led this state through nine presidentially declared disasters. And in all of the work I did in that job, I'm just looking at the question out of all the entities that I thought would come to play in trying to help our people, right? Because that's really what it boils down to when you drop all the phrases and the actors and how do you help your neighbor? I had to say financial institutions were never on that list. We have in this country, and it's unparalleled in the world, access to efficient capital, whether to run a business, whether to pay for your home. We have more variety in that products. I keep up a lot with what's going on in Great Britain. And Great Britain doesn't have fixed mortgages. Everybody floats over there. How would you like for your mortgage to be floating right now, particularly if you were on the budget? Now that risk was offset by society and put on to the balance sheets of the banks by offering fixed rate mortgages. We knew when we were issuing those mortgages in the last couple of years at ridiculously low rates that those weren't going to look so good in our books someday. But it was a part of being an American and being a part of the community. So, when I get to the role, we play it's providing the financing and there are a lot of rules out there that we have to follow. I think we should have a lot of rules that we have to follow. I also think it's important for people to realize that the shadow banking industry, the financial institutions that are regulated with every year that goes by have a smaller slice of the pie, a ridiculously smaller in every single major category of lending in this country today. Shadow banks, non-regulated banks have larger market share than regulated INS entities. So to continue to come back to the same group of people and say, well, help us fix this problem, help us fix that problem. I understand that's the way our government works, but I don't know if it's a good idea.

Karen Burk: Thank you. All right. So again, what we're focused on here before break is around resilient building and preparedness, and we'll be diving into more of the recovery and mitigate in the next section. So let's talk a little bit now about this. What does the Federal Home Loan Bank system currently do? What's their current role that they're playing? And we can dive into that a little bit. So how do the federal Home Loan banks presently support, preparedness and mitigation?

Richard Moore: I'll just say, Karen, I didn't know they did, and that was one of the things that I was glad to be invited to participate here today and try to do a little homework. I understand there are some grant programs. I'm sure they're very worthwhile, but I didn't know that.

Karen Burk: When it comes to this community investment program or the community investment cash advance program advances, do you think that those are conducive to-

Karen Burk: **A**dvances. Do you think that those are conducive to addressing climate resiliency?

Caroline Nagy: I was... Oh.

Karen Burk: Go ahead, Carol.

Caroline Nagy: Yeah, sorry. I was a little [inaudible 00:30:17]. I think there are. You obviously have... I understand that there are some incentives within the currently existing programs that give extra credit for sustainable buildings and the disaster relief funding program, allowing members to assisted rebuilding and economic recovery in federally declared disaster areas. I think I'll return to my previous theme, which I might return to a few more times, is that we simply need more of that. I think. In looking, it seems like the banks really vary by region of how much they're investing. And I think if you... the Federal Home Bank of Atlanta, for example, seems to have a significantly lower amount of participation in these programs and, say for example, the Federal Home Loan Bank of New York where I'm located. And so I think this is really where the FHFA plays a role with standards and a bit more uniform reporting so that this information is accessible to the public, especially to the folks who are benefiting or not benefiting depending on where they are in the country and what kind of services products are available to them.

Karen Burk: Thanks. Steven.

Steven Rothstein: David was before me.

Karen Burk: Oh, go ahead, David.

David Beck: So I think my understanding that Sika is very underutilized, and I don't know if that's just in Atlanta or across the system, but I think that the... and I'm not sure all the reasons for that, if it's complexity, the products don't fit or what, but I think that the bank boards need to be more aggressive in helping their staff figure out how to seek a more usable, both in climate change and outside of climate change. And it's not really the purview of this discussion, but I think a lot of these community development type issues get shoved under the AHP, the Affordable Housing Program too much, which is just 10% grant program was actually 30% when it first started because 20% went to the Resolution Trust Corporation, I believe. But it's like, "Oh, well maybe we can do that through AHP." It's like, no, we need to put more of the bank's balance sheets in play, in being more aggressive, not just on climate change, but on affordable housing and a lot of issues.

Caroline Nagy: Yeah. And I think... Oh, sorry.

Karen Burk: Steve.

Steven Rothstein: So just very briefly, three things. One is what should be done at the local level versus one of the 11, versus national? If you think about some of the other agencies, whether it be Fannie or Freddie or Federal Reserve or FDIC. So I think there's more in each than nationally. Second is I think that what David said, we'd recommend that 10% be increased for that. And third is I think just follow up on your point, I agree the banks are the foundation and we're incredibly lucky for all the thousands of banks and credit unions doing an amazing job, and to address climate change. You look around the world, there's no country that is leading the risk protection where the financial institutions and the financial regulators are not leading and the United States is behind. So we need to address this in a different way, building on the great work of the banks and credit unions have done for decades and decades.

Caroline Nagy: Yeah, just to... I think the mixed amounts of uptake of these various programs, I think are assigned either of the regional needs are so different, or that there could be more guidance from FHFA and a bit more comparisons in a way, because they... If I have to download all 12 different community lending programs just to know what's happening, it seems like there could be a bit more coordinated approach to informing the public about what this system is doing and how it's using its resources and where.

Chris Bosland: Richard, did you want to get in here?

Richard Moore: Think I'll pass.

Chris Bosland: You'll pass. Okay.

Miyuki Hino: I'll add a different perspective, which is FEMA recently has had larger amounts of money to invest in communities doing preparedness projects. And one thing that they have been finding is that the hurdle for communities to apply is so large that the applicant pool that they get tends to be skewed towards bigger cities, wealthier communities with higher capacity at the local scale to even put together the application. And so when it comes to really expanding access, they have plenty of demand, lots and lots of communities that want to make these investments and do these projects. But when it comes to really supporting the full range of communities, they're really thinking about how to simplify that process and create new ways for smaller communities, especially to navigate the administrative hurdles to even getting an application in for consideration.

Chris Bosland: No, and I think that gets a little bit to David's point about the grant money ever being enough. So Richard, let me ask you. David made the point that the home loan bank should be deploying that side of their balance sheet to community development. But I assume for purposes of this discussion, economic development at large to encompass climate resiliency or recovery. As a member, what's your reaction to that?

Richard Moore: Well, I think that's great. I think what you always bump up against... and that's why I'm still trying to grapple what any of this has to do with Federal Home Loan Bank board, but I'm trying. As a member bank, the way I understand this is we are one of the owners of the home loan banks, and the reason we're one of the owners is because when we want to borrow money from them, we are required to be a shareholder. We have about, I think a little less than 5% of the amount of money that we want to borrow. We have to hold as a shareholder, and then we get a dividend off of that shareholder just as most businesses that are growing and have enough money to have a dividend. But that dividend is very important. That dividend right now is about nine basis points that when we borrow the money, it's basically a rebate back at nine basis points. So, let's just say we want to borrow money for a year right now and that's at 4%. We know the real rate of that is 391 basis points. We're going to get nine back. If the board increases the amount of grant programs and other things that they are doing too significantly... and don't get me wrong, I'm glad that there is a dedicated position. But you got to back the numbers out because if that money gets too big, then all of a sudden the borrowing that we do doesn't look attractive. If anything has changed the most since the system was created 90 years ago, which by the way, I need to get this plug in. My grandfather, Frank

Hancock, wrote this legislation when he was the only practical banker in the United States Congress during the Depression. This is great but small world story. Where on earth would I ever get a chance to talk about this again? And it was actually on the Federal Home Loan Bank board from 1939 to 42. And you guys even had me reading some law review article from 1939 from this, quoting him on the original purpose of all of this. But the thing that's changed the most is there wasn't anywhere near the liquidity in place then that there is now, if you make the borrowings, the advances unattractive, we won't use the system. And if we don't use the system, it doesn't work at all. Because even right now, there are other places when we need liquidity that we can go that sometimes is already more financially attractive than this scheme. So I'm not saying we shouldn't do that. I'm not saying we shouldn't do more. I'm just saying that's a very realistic concern to put on the table that this is not a bottomless well of money to try to do good things with. And also don't get me wrong, this is all really good things that are trying to be done here.

Chris Bosland: Well, I'm excited to meet someone connected with the origin. This is fantastic. My question, just to be a little bit more precise because I took what... and David, you can jump in here. But I took what he was saying was not so much the grant, was the opposite of the grant program. So it gets at, I think what you were talking about, the borrowing, the advance rates, was actually making more of these types of quote-unquote investments through advanced activity, deploying the balance sheet in that way. Is that where you were?

David Beck: Well, I think both. I think deploying that way, but also using some of the subsidy.

Chris Bosland: Sure, sure. But in terms of... so to magnify the impact. And so what I hear you saying Richard, is that advanced rates matter, and so-

Richard Moore: If you take too much out of the direct dividend back to the institution. We may just not use the system at all.

Chris Bosland: Well, but what if we got a mass... don't say mass, massive. It's a loaded term. If we got a significant discount in your advance rates, would you do more activity?

Richard Moore: Oh, sure. Yeah.

Chris Bosland: Even at the expense of dividends.

Richard Moore: How do you... That's got to pencil out. Somebody's got to pay for that, right?

Chris Bosland: Well, but I guess for the purpose of today's discussion, I was just... Like your reaction of if the advance rates were lower to finance some of this activity, how does that play for a member? I guess is the...

Richard Moore: It plays great as long as there's enough left to run the system. Yeah, that's...

Chris Bosland: Okay. Fair enough. Sorry, I-

Richard Moore: Yeah, no, no, no. That works for us.

Miyuki Hino: No, that's fine.

Richard Moore: That's just got to come out of somebody's budget. That doesn't come out of the air. It comes from somewhere. But I'm fine with that.

Karen Burk: Steven.

Steven Rothstein: Yeah. First, congratulations on the legacy that's really impressive and-

Richard Moore: You can't use the word impressive. I don't know that it is anymore.

Chris Bosland: Did he have a cape? Did he know?

Steven Rothstein: And I guess just following up on what Carol said earlier, I think over the next decade or two, we as a nation are going to have to spend more on this. Just take Florida, last year they spent 3 billion to protect their reinsurance market. They didn't plan to do that because the reinsurers were leaving. Who knows what next year, the following year-

Richard Moore: It's only going to be worse.

Steven Rothstein: That's just an example. So as a society we'll have to spend more generally. And then if we care, which we all do of low wealth communities, there's a particular focus there. So if for example, someone said, Hey, for your bank, you have a lower rate if you meet these needs, or if you focus on climate, you might actually use it more then. So there could not just be a negative incentive, but a positive incentive.

Richard Moore: Absolutely.

David Beck: I was just going to talk about... I don't know if this fits right to this question, but to Richard's point about that he oversaw nine disasters in North Carolina, they're not one-offs anymore, right? And I know we've tried to do this in North Carolina with not the as much success as we like. But disaster preparedness is a full-time like its own department now and needs to be. And so I wonder to what extent the banks can help our members think more systematically about when the disaster hits. How does the bank react to Richard's Point. In Eastern North Carolina, the various floods, Fran comes to mind. We deferred all loan payments during that period. And I'm sure some banks did the same, but is there some way that the Federal Home Loan Banks can really help guide members when the situation hits?

Karen Burk: Right. And after break, we'll get into more of the recovery aspect of the discussion. But in speaking about preparedness, so I've got another question here to keep the conversation going. When it comes to mitigation and preparedness, should there be different requirements or asks for Federal Home Loan Bank members, depending on their membership type, for example, commercial banks, insurers, housing, finance, state agencies, et cetera?

Richard Moore: Well, if you take it back to the original purpose. And Congress has made some changes on membership, but I don't know that any major changes have been made. If the original purpose was to encourage liquidity to have more homes built, right? Whether affordable, not affordable. And the other thing that was going on at the time, and we actually saw a little of this after 2009, 2010 in the country, again, if you have too much of a boom and bus cycle in residential construction when there's a bus, too many people go out of the business. And one of the reasons to my understanding of why the Federal Home Loan Bank boards started to begin with was to make sure that that was less of to take the edges off both ends of the cycle. But in today's membership requirements, if you don't run a mortgage department, if you aren't trying to do affordable housing, if you aren't trying to make a direct play into vibrant communities by providing that financing, and there are all sorts of ways that you can be a member that you provide indirect financing. But I think you could make an argument that if you don't provide direct financing, that your membership access should be different. It should be steeper. It should be... Steve, whether it's a positive incentive or disincentive, there should be a difference for those of us who are out there every day trying to get folks who can barely afford a house and a home, and it's rewarding work when it works.

Karen Burk: So, what would that look like?

Richard Moore: Well, so everybody doesn't have completely equal access. And to my knowledge that if you're either a member or you're not a member. And if you're a member, you can pledge different things to get the advances, but the rates for everybody are the same. Maybe it shouldn't look like that.

Caroline Nagy: Yeah, I agree with that. I think... I'm glad that we're talking about the purpose of the banks, and it's thrilling to have a historical connection too, because yeah, I think this was a pre Fannie Mae attempt at incentivizing and providing liquidity to allow for housing construction. Now, if you look at the main activities of the bank, at least at the numerical level, it really seems to be providing more attractive liquidity than other venues right now for the largest banks in the country that do not do mortgage lending. So then I have the question, is that an acceptable public use? This is a public system, well, it's quite private, public. But most other institutions that could fill this role would not have tax-free status, would not have privileged lie status over the FDIC. And in fact, the FDIC has... well bailed out, I guess is a one way of saying it to the Federal Home Loan Bank, so the tune of over 11 billion since 2006. So there is actually quite a bit of public money here and a public interest. And so thinking about, well, how does this work for the public? Right now I would say most... nearly the entire public, unless they have a particular connection, is not aware of what the that system exists in the first place. And I don't think that's healthy as part of the conversation, which is why, again, I'm very thrilled that we are having these opportunities. I think to the extent that we're asking things of members. For banks, you need to obviously have an acceptable CRA grade. There's not anything similar for the insurance industry. We don't have a CRA for insurance, but we know that... and we'll get into this later, huge amounts of need there as well. And I think also the climate change, he said we weren't here to talk about the causes, but I think you do need to look at financial industry and insurance industry and the amount of investments in carbon emissions over the year, and that has to be part of an understanding too. We all have our own responsibilities here, but in the financial services in particular, it's going to be such an important part of our response to disasters and the non-disaster sunny day flooding that you're already seeing in coastal communities all over this country.

Karen Burk: Steven?

Steven Rothstein: Yeah. Three quick points. First is I think there should be differential in rates, both positive and negative. And there's lots of opportunities there based on goals. Second is availability of money that a large bank that has said, "I don't want to be in the mortgage business." Should they have access? Should they have less access? Those are I think, significant questions whether they have access. And then third is that the six largest banks in the country and more and more are developing transition plans. They're all saying that there will be a growing risk in climate. And they've said by 2030, here's what they want their portfolio to be, so they're having banks. If they've gotten a certain amount of money to have a climate transition plan. They developed their own. But to require a transition plan as this is being required now around the world.

Richard Moore: If I might just jump in on that, that is coming for all banks, but it's just not going to come through these entities. It's going to come from our primary regulators. So that is coming. They're already asking the questions. We are already designing our portfolios, who we lend to with climate concerns. So that doesn't have to come through this entity.

Steven Rothstein: I agree. Primarily Federal Reserve FDIC, OCC, and they're starting with the banks a hundred billion or more. And then going there, I agree. But I think the Federal Home Loan Banks can play a role in encouraging and information, technical assistance and in motivation, I think there are a variety of things that they could do.

David Beck: Yeah, I think the banks play... Richard said, we've got regulators and for us, the National Credit Union, whatever, NCUA. Missing my acronym.

Richard Moore: Too many acronyms.

David Beck: Too many acronyms. Thank you. Bailing me out.

Caroline Nagy: We can all agree on that.

David Beck: But I think that the Federal Home Bank have the ability to play more of an incentive role, right? With discounted better haircuts, discounts, incentives to really think in a different way, whereas regulators are obviously much more the stick and keep you in line. And the other thing I think it's worth noting for a lot of these conversations though we're talking about at lunch is the bank members now make 30% of home mortgages. Is what Chris... When I asked that question, you said roughly that. And so that means 70% are outside of the system when the system originally, I'm sure at some point was a hundred percent or close to it. And that's not necessarily a bad thing, but it's a reality about what the bank controls about where its mission goes, should it change or not, and just something to grapple with both in terms of climate and more broadly.

Karen Burk: So beyond contributing to the AHP, what ways could the Federal Home Loan Bank system directly or through their members play this greater role and what's prohibiting them from doing that? So we talked a little bit about how you could augment the existing products, but what could be additional products or programs? Thoughts on that? Are you guys...

Miyuki Hino: I was going to add something to what David-

Karen Burk: Oh, go ahead. Go ahead.

Miyuki Hino: I was just going to tie together these two points about incentivizing members to take on more energy efficient and climate resilient housing.

And that serving the combination of the regulatory purpose plus the incentives from a Federal Home Loan Bank. I think one, the regulatory perspective is going to be really focused on avoiding worst case scenarios. It's not going to be about trying to capture the upside of early investments in efficient and resilient housing and housing that's affordable in safe places. And two, because the portfolios of the biggest banks are naturally geographically diversified, and that is less likely to be true of the smaller banks. And therefore their risks from a few bad hurricanes in one year are likely to be very different than the big banks in terms of the cumulative threat. I think there is a real rationale, both from a stability standpoint and desirability to be more aggressive at those scales than necessarily just for the largest financial institutions.

Karen Burk: Right. Thank you.

Steven Rothstein: I think Karen, just... And we briefly talked about it earlier, but the issue of... One of the questions is what's done at the level of the 11, regional bank versus national and what should be required? And from our perspective more should be at a national level, whether it's through a greater centralized infrastructure or just as the Federal Reserve does, is they delegate, "Okay, Boston Reserve, you're going to handle this issue. And Atlanta, you're going to handle this issue for the system." So there are different ways to do it, but I think there should be more national standards.

Chris Bosland: Couple of things. One, I'm still smarting from the worst. Looking at the worst case scenario remark, but I guess as someone who lives in the bottom half of the glass, I'll own that as a regulator. I don't want to be an apologist for the banks. But Caroline, you threw out the amount that the FDIC has paid for. I presumably that some measure of failed institution... what they paid in the case of failed institutions. I do think it should be noted that there's problem. I have not seen data on the institutions that did not have to be bailed out because they got advances from the home loan bank. So, I do want to balance that out a little bit. But Karen, if you'll indulge me, one of your comments in the written homework that we assigned, you talked about new ways to finance risk mitigation measures. And since we're talking about mitigation, I was just curious if you could elaborate a little bit more about what you had in mind when you wrote that, because it sounded intriguing to me. Just given your research on different types of structures and so forth.

Miyuki Hino: Well, I do think this relates to what I said earlier. There are a lot of investments in buildings that we know are cost effective in the long term. And so if you think about energy efficiency as an analog, products that essentially pay the upfront investment and then take a cut of the savings over time in the form of the reduced utility bills, that those products were able to really dramatically expand the scopes of buildings that would take on these energy efficiency retrofits. The risks to the owner were very little because it was a different institution providing the capital, but then they get a certain amount of savings from those investments, right? And the person who provided the investment also gets a cut on that over time and that accrues. I think in theory there is argument for insurance to be part of that equation. If I make a big investment in putting a new roof that's extremely fire safe on my house, that in theory should reduce my insurance payments because I'm much less likely to have to make a big claim on my house. And I think currently... And so is there a case then for insurance to provide some of the upfront capital, right? To support those investments and then benefit from that over time? I think there have been some small pilot programs doing this. I think in North Carolina there was one with wind, you might know about this wind proof roofs, where they provided loans or, I think there was some investment in expanding the pool of people who could access that. But I think in some sense societally, we're leaving money on the table with the huge number of homes that are not up to modern building codes and which with what could be done. So that's one area where I think there's known options for reducing risk that aren't being taken advantage of at the moment.

Chris Bosland: Okay, thanks. You seem to touch the nerve because I saw a cards passing furious on this side of the table. Caroline.

Caroline Nagy: Thanks. Yeah, I think... So this is something I have direct experience with. When I was working in New York City, at Center for New York City neighborhoods, we had a CDBGDR Housing Counseling Resiliency program, which at the time we thought might have been the first or somewhat unique in the country because the complete gap between what we are talking about here, and how a typical person views their home, understands risks, understands what might be cost effective options for making their home safer. It's almost a total disconnect. And I already did put in a plug for housing counseling, but I think there is a huge role here for housing counselors because there's a lot of very sophisticated financial arrangements involved. Insurance, the ability to save money, the need for financing that does not make things worse, which in the sad case of pace, and its initial implementation in California, it actually did. I think those are all issues at just the very basic level of your house and where, what roof do you have, what kind of boiler do you have? And is it in your basement? If it's in your basement, that means that your costs in a flooding event are going to be x-plus a new boiler cost. It's a lot. And I think trying to... Take it back from a personal housing, having incentives, having better mechanisms for pricing that encourage folks to make long-term cost-effective improvements really bears. It's... Bears more positive risk outcomes when you do have disasters. And I know I'm talking about flood a lot, but many of these things can relate to other natural disasters as well.

Steven Rothstein: So FHFA and the Federal Home Loan Bank can also have enormous power as a convenor to bring people together and to give incentives. So in the insurance industry, there are literally dozens of examples where they've played a... not just shifting the risk, but changing the risk. Whether you think about seat belts, they weren't going to insure a car if there were no seat belts. They didn't change the risk, they stopped it to college dorms and drinking. What insurance policies they offer colleges if they do or do not have drinking policies. So they changed it. And just follow up on your point, the California Insurance Commissioner has a database, it's on their website of 400 insurance policies that have a positive impact on climate. They may not be driven that. They may not be the reason. One that we all know about is if you drive less, your insurance goes down because there's less risk of an accident. We're also using less admissions, but there are examples of wind and solar and others...

Steven Rothstein: Are examples of wind and solar and others where there are insurance products. So there are great pilots, but they haven't reached critical mass from the marketplace.

Karen Burk: So, I'm hearing that the insurance industry can have significant impact here. So as far as the nexus with federal home bank system, the membership rule is based on the investment in the holding of mortgage assets. What would be the pros and cons of expanding that to the activities of an insurance company, like providing hazard insurance?

Richard Moore: Well, I think that's a variation on what we were talking about earlier, but in terms of the banking industry, it would be the same thing. If you're more directly tied to it, maybe you get preferential access somehow, maybe. That's a perfect example, and the best example that has reached critical mass of what you were talking about, if I understand it correctly, is solar energy, and I love the way you phrased that. The consumer gets a grant up front. It makes a system, it makes the payback on their solar system much shorter, and then the person providing the money gets a benefit, person providing that money is us, United States taxpayer, but we're getting the benefit of hopefully a cleaner planet.

Caroline Nagy: I think I'm not responding exactly on point because I don't know that answer, but I wanted to just talk a little bit about the insurance, insurers setting standards that move policy. I think, Richard, you already discussed banks are preparing for this, for climate change with their regulators. Insurers are as well and I think in the past, when these really important societal decisions are made just by financial institutions, the result is not always one that has the most, I would say just outcomes, and I'm thinking of the home loan banks and the history, the requiring for one thing that the home loan banks did a long time ago, so no one here has any. This is all a long time ago but requiring adoption of the HOLC appraisal schemes and redlining maps as a condition for Federal

Home Loan Bank membership. Obviously, Federal Home Loan Banks weren't the only ones doing this, but as a result, you have a lot of equity concerns here that I think really require a special look at. We know that the harms of climate change aren't felt equally. Obviously, geography has a lot to play, but we know that communities of color, low- or moderate-income communities face much greater climate vulnerability, higher housing and energy cost burdens, and worse public health outcomes due to decades of racist housing lending and citing. And I would add ensuring insurance policies. Obviously, the legacy of redlining and cutting off communities from credit results in not only higher physical vulnerability of housing, but also higher levels of pollution from fossil fuel in infrastructure, highway construction, and other practices like that. So I think it's not enough to develop, to have a response led by the same insurance industry, but also to include equity and racial justice as part of this very big problem and this very large conversation because I think this is a quasi-public system and I think that's really where we need to weigh in.

Karen Burk: Thank you. So we'll hear from David, and I have one more question before we turn it over to Chris to go through the recovery questions.

David Beck: I was just going to say, this fits in in terms of equity, but also more generally, there's $27 billion coming down from the EPA, the Greenhouse Gas Funding Initiative that they're going to release in the next six, nine months, and we are looking at that in terms of what sort of energy efficiency products can we ramp up and how can the Federal Home Loan Bank, frankly, help on that or the other GSEs. And so one of the housing related ideas through our secondary market purchasing, loan purchasing program, we've purchased, over the years, a couple of energy efficiency on bill financing products, loans. So in Oregon, you pay to buy your energy efficiency appliance or solar panels or what as part of your utility bill, and that loan, it gets paid at a good rate because it's part of an existing bill and it's different than... What was the one you were mentioning earlier? It doesn't require lien on your house.

Caroline Nagy: PACE financing.

David Beck: Yes, yes.

Caroline Nagy: Yes.

David Beck: Right.

Caroline Nagy: No liens on anyone's home. That's a bad idea.

David Beck: But I think this money is coming down and it's going to be a way, hopefully, to get these energy efficiency solutions to lower income families, and so I think it's something for all of us to think about as the EPA is developing where that money is going because the last thing it needs to go is to, frankly, the people like us who can afford to put solar panels on their house already. It needs to get to the people who really need the subsidy to be more efficient.

Caroline Nagy: And renters. Yeah. We really do not have much of anything of a way of assisting folks who don't own property with resilience disaster recovery, et cetera, and renters are 30% of this country's population and it is a massive... They are harmed in different ways. They don't own property, but it is incredibly destabilizing and there's a huge amount of need there as well.

Karen Burk: All right. So are there other programs working well that could be a model for the Federal Home Loan Bank system?

Steven Rothstein: Within the Federal Home Loan Bank or in other entities?

Karen Burk: Other entities, any type.

Steven Rothstein: So, there's a number of great pilots that Fannie and Freddie have that can be used and I have a list which I sent, but I'm happy to follow up on some of those. They're also, just on the IRA that was just mentioned, in addition to the 27 or whatever the right number of billion is EPA, there's $600 billion overall between tax credits and revenue, and that for the banks, it can be another opportunity. So the Federal Home Loan Bank can be, again, a convener. They can bring people together on some of those areas and this can be an enormous opportunity of growth for the banks, credit unions, and members and they can be a convener on some of those.

David Beck: That a little bit gets at Federal Home Loan Bank mission too because one of the use of funds here is going to be loans for electric vehicles, which is not something that really falls in the Federal Home Loan Bank's purview, but maybe it should. We talk about community in the Federal Home Loan Bank's mission, community implies a lot of things, and arguably, just about everything and reducing emissions through better, more efficient vehicles certainly is a positive impact for the community. So just trying to think, help the submission creep perhaps for the banks.

Chris Bosland: Well, that is the difficulty, that there are certain things they want, but at some point, it becomes all for everything, but it's a fair point. I take your point.

Karen Burk: All right. Should we move on to...?

Chris Bosland: Well, I'm going to exert some moderator privileges. I had a lot of coffee and I think now's a good time to take a break. It's 2:08, so let's take a 20-minute break and come back at 2:28 for our tech guys, and then we'll be back by then. Thanks.

Karen Burk: Thanks.

Chris Bosland: Okay. Welcome back. Hope everyone's recharged. So as Karen was indicating, we were going to maybe take a little bit of a deeper dive onto some of the other topics we've discussed already after the break here. It's come up a number of times, disaster recovery. So maybe we'll start with a general question just to recap. What do communities need when it comes to disaster recovery, and Miyuki, I'll pick on you just because I think you had mentioned more for disaster assistance in your remarks. So just as setting the stage, what's encompassed in disaster recovery for that community's need?

Miyuki Hino: Sure. I think the first thing for everyone to know and be aware of is that insurance is the fastest and the largest source of funding that will come to a household after a disaster event. There is a wide misconception that FEMA, the federal government is going to show up and rebuild your house and that does not in fact happen. On average, FEMA assistance to a household is something on the order of $5,000 after an event. It's capped at about $40,000, maybe less, whereas insurance payments average closer to $100,000 in their payouts post-event, they're faster. Some companies will give you an advance even before an event occurs. So, in terms of disaster recovery, we know that insurance is really, really critical to that. It's also been shown that insurance coverage protects mortgages. For example, after Hurricane Harvey, there were many banks that had extended forbearance policies on mortgages, but even so, the homeowners that had flood insurance policies were much less likely to default than those who didn't. So for many, many reasons, insurance is really, really core to disaster recovery, and we know that many homeowners are underinsured if they're insured at all, and then there's a whole trench of homeowners who are not insured at all, whether that's for flood insurance or for other aspects of disaster risk. So I think at the homeowner, or the family, I should say, not just homeowners, but also renters at the household scale. Our current disaster recovery processes really rely on insurance as the first option with some level of social safety net after that that is often not as extensive as people might think and takes a lot longer to access than people might think as well. At the community scale, I think there are also investments in community infrastructure, community healthcare centers, schools, that there are government systems, state and federal government systems to help support, but I think a lot of those also fall through the cracks, and so recovery, when we talk about that, is a year's long process because it's not just about repairing a home and getting a family back into a house, but it's also about restoring all of these critical community functions that often aren't the very highest priority for individuals in households after an event but are really critical to the social network and to the strength of that community overall.

Chris Bosland: Thanks. Steven, and maybe I'll also ask you to, you used a phrase earlier on, managed retreat, so maybe if we could get into that too, but you obviously wanted to get in here first then.

Steven Rothstein: Sure. So just on that, the idea of, and there are some great pilots including in North Carolina that Richard was mentioning his work in a prior life, and there's other examples where the idea is we won't be able to live in every place where people live now. Just with climate, it's just not going to happen. So instead of a government program rebuilding the home over and over and over again at the same place, maybe to say either that if you're going to rebuild there, we'll pay you 80 cents on the dollar or some percentage versus someplace else, 100%, or that if you built it with stilts or built it with certain protections or wind protections. So, to give incentives to move people over time with particular emphasis on low-income folks, that's in terms of managed retreat, very hard politically. I don't want to underestimate for a city counselor or a mayor or somebody else, but we're going to have to do it because it's happening now anyway, one way or the other. Think back to what Carol said earlier. There's three million people who lost their homes last year, but there are a variety of other approaches and every element from the banker to the bank regulator to the federal government have a role to play. So, for FEMA, I completely agree with what you just said, we need more money in there, they need to redo their maps so that today, as I think you said earlier, over half the people live in areas that are floodplains that are not according to the FEMA maps. So update those, looking at the amount of money, or maybe you said that. Sorry, I apologize. Looking at those things. On insurance, there's lots of things they could do, but a few examples, parametric insurance, and there are a few pilots that exist where instead of the idea of I'm going to be insured, I'm going to go to your home, check how much damage you have, then write you a check and it is the fastest, but it's also slow, and there are pilots now in New York and Puerto Rico and other places that if you're in a certain geographic area and if there's, for example, two inches of rain within 24 hours, you get 5,000 or 10,000, a small grant. It doesn't solve everything. But if you have a home, you've lost something and you get mold in your house, if it takes three weeks to get a check, that mold has grown, so the cost has grown. So looking at some of those. Microinsurance ideas that, again, not instead of, but in addition. So parametric insurance, microinsurance, group insurance, and there are examples of all of these that can all be helpful as those are examples, but there's a lot of other things on the bank side and the credit unions and small community banks that tend to loan close to their geographic area for business reasons. They're also statistically, as you said earlier, at a bigger financial risk while the big banks, they have a bigger portfolio, but just statistically, a greater portfolio if a natural disaster happened to hit their area.

Chris Bosland: Caroline?

Caroline Nagy: Yeah, I totally agree with everything said here. I think, yes, in the immediate aftermath of a disaster, getting assistance to folks the quickest way possible is essential, and I think having something like a parametric flood policy where everyone gets a certain amount, this is something that's being piloted in the US in New York City, is one very important program structure, but also cash assistance. If you have any assistance for folks who will not be covered under FEMA disaster assistance, such as maybe for folks who are undocumented, who maybe missed a deadline, something like that, making sure that those folks don't fall through the cracks, and before that, you need information, and I'll tell you, I live in Troy, New York on the Hudson River, so there's a flood zone. I can't access a digitized map of the floodplain in the town that I live in the year 2023, and that's unacceptable, frankly, and one of the things that I have worked on in the past was an educational website called Flood Help NY with the Center for New York City Neighborhoods where I used to work and really, you can type in your address and actually get a lot of information about your flood risk from more of a counseling, assisting the homeowner, property owner perspective, but people were like, this is great. Why can't you do it for the whole country? It's like, because we don't have this data for the whole country, and we need it. All of our flood maps should be digitized yesterday and that we haven't is a bad thing, and finally, one more point. Yeah, absolutely, buyouts are an essential part of our response to disasters, to places that where folks shouldn't live anymore. Who gets those buyouts, how does that happen, and ensuring, as Miyuki had said earlier, sufficient resources for rural communities that might not have someone to write grants or to write these proposals is essential, and then finally, somewhere for folks to go. If we're saying you shouldn't live here anymore, where's this housing that's going to be affordable to them, especially for low income people, and that's why we really need a lot of dramatically expanded affordable housing in areas that are not disaster prone. Also, we need a more affordable housing generally because we have a housing crisis.

Chris Bosland: And then I'd like to come back to some of these and see what you're thinking is or our collective thinking on what actually can the home loan banks do in these things. Certain things, digitizing the floodplain, probably not going to be their thing, but there does seem like there might be ways that they could at least convene people or whatever, but we can come back to that, but I want to get David in here.

David Beck: Well, I was really, not to put Richard on the spot, but given his experience heading, the depth of your experience on disasters is pretty unparalleled, certainly, I think on this panel, and so I'm just curious from what you recall seeing in those nine disasters that were just the pressure points that you think banks or Federal Home Loan Bank could address or what were the real systemic errors, I guess, or shortcomings?

Richard Moore: Yeah. David, I think I've hit on it earlier, and you're not putting me on the spot. I don't think there is anything. The immediate need in recovery, the entire recovery process, once you find out that you and your family members are still breathing, what comes next is is your house standing and then what comes next is how much damage have I received and where am I going to get some money, and you need it and you need it quickly for a lot of the reasons that everybody just said earlier, but how this entity that we are gathered here today to talk about how that plays into this, I just really, I'm at a loss. There's so many things that anybody can do indirectly, but does that raise to the highest in the pecking order of the core mission of the Federal Home Loan Bank boards? I'm glad it's not my job to make that decision.

Chris Bosland: Excuse me.

Steven Rothstein: So, when we think back, and I don't want to try to pretend to be your grandfather in terms of the historical context, but from reading some of the articles, it was set up to be-

Richard Moore: If you were, you've aged really well.

Steven Rothstein: It's to meet a critical financial and social need in terms of home equity and homeownership back then. Well, today, as every financial regulator at the federal level has said and around the world is the climate is an empirical risk, not just to our society, but our financial institutions, Federal Reserve, FDIC, OCC. 82 Central Banks around the world have said this in one way or another. So I think part of that is we all have to play a role. What could the Federal Home Loan Banks do? There are three buckets of things, and I'm sure there's more. One is to encourage pilots to try a variety of things and get information out there and get data. Actually, I'd say four pilots. Second is research, and maybe they do that with universities, they do it with the Federal Reserve and others about data out there. Third is looking at incentive rates for interest rates as we talked before, positive in some ways and maybe more restrictive in others to have the capital reflect those needs, and third or fourth would be convenings to try to bring people together to incentivize that. So there's a combination there of you think about carrots and sticks, more on the carrot side, but I think they could do combination of all of those.

Chris Bosland: Caroline, you looked like you were about to say something. So the convening thing is an interesting, and obviously, that's something that they would not be a heavy lift. It might be hard to get down specific deliverables, so to speak, but some of the ideas you were talking about, you were talking about, if I understood earlier before the break, the parts of the savings that you might get from some of these things would be captured and split in certain different ways. The parametric insurance, these things, they seem to call for a neutral third party validator or something. How do you validate the amount of the savings or maybe it's trivial with the case of rainfall, but is there a role for the bank system as the imprimatur of a standard setter, or it came up in response to some of the things you raised earlier, so I don't know. Is that sound at all?

Steven Rothstein: Sure. So I'll just take an example. In the last few years, and these are examples from the Federal Reserve, OCC, and FTIC in different ways, with the pandemic. The entities had different rules, and particularly the Federal Reserve, things that they had never done before that were part of their mandate, never done before to meet that need, and in the housing, if we start with the assumption that we are at a crisis point with housing, and more so because of climate and more so for people of underserved. Then what FHFA and the Federal Home Loan Bank systems could do, could again be an imprimatur, and if we look at that to the cost of capital, that's one where they could say if you're going to loan under these criteria, then your basis points is X. If it's not, it's plus some other area, and the collecting of national data because we don't have enough of this and they could play a critical role in that and just by having the data, in France, when there was more data of what the banks were loaning to, it reduced over six years loans in more risky areas, some of the fossil fuel by 42%.

Chris Bosland: Miyuki.

Miyuki Hino: One other thing I want to add is I think the consumer awareness education gap is just gigantic. Truly, I think hard to overstate how little people know what they're getting into when they're buying a house. I bought a house a few years ago in North Carolina. I asked my real estate agent about every question you could possibly imagine on flood risk. I was probably his most annoying client ever as it related to flood risk questions and he was fantastic, but he clearly, there were parts of my questioning where he clearly was uncertain on exactly how it worked and could I even get it because I wasn't in a floodplain, and you can get it if you're not in a floodplain and all of these things. There isn't a ton of data on what people know, but some surveys, one survey in particular that I refer to a lot, it was less than 10% of homeowners knew that they were buying a floodplain home. So when you asked them later, did you know when you made an offer that you were buying a house in the floodplain, less than 10% of them said yes, and when they were asked if you had known and if you had known the cost of insurance, would you have done something differently? Would you have changed your offer or would you have not made an offer? Almost 70% of them said they would have, and so this is changing through other data sources. We have other non-federal government sources of information on climate risk, and I think there's a huge amount of effort going into making this information more publicly accessible, but in terms of what banks can do, I think there's both an educational role and also ensuring consumer protection in terms of the quality of the risk information that is being shared. So as other sources of information about climate risk come online, I think there's also a lot more threat to the consumers that they might be interacting with information that they don't understand that isn't really vetted, that may lead them to misleading understandings of what their underlying risk is, and so both in terms of making sure people know what they're getting into and also making sure the data that's being used is of high quality, I think there's a role there too.

Chris Bosland: Thanks. Caroline.

Caroline Nagy: Yes, I completely agree about data and the need, and I do think that there could be improvements on how the activities of the FHLVs and particularly some of the programs that we were talking today can be reported across bank and across region. Some other suggestions from our friends at the National Fair Housing Alliance to include demographic data of folks served as well, and I think looking at some other ways that we assess, the public assesses banks, the fact that the CRA is going to be updated, that will be a process by which we'll get a lot more information on banks generally. And it will also impact the membership criteria by default, and one of the things that we have been pushing for in the CRA is not just awarding good behavior, but downgrades for financing carbon intensive deals and looking at harms caused by some of these. What are the kinds of activities that these financial institutions, including insurance companies, are financing? Obviously, we've said our piece on that and we are awaiting the final rule, but I think that's another mechanism, another lever for ensuring that member banks are complying with these obligations.

Chris Bosland: Okay, thanks. I do want to come back to one thing we were discussing a little earlier, but you stressed the importance of buyouts as in the toolkit, and I know that the home loan banks in the event of disasters frequently do have a toolkit that they employ, greater outreach, I think some interest rate forbearance or actions when an area is hit by a natural disaster, typically, but buyouts in terms of buying homeowners out of the property is something that potentially, they might get involved in, but I'm curious, I take from your comments and some things you said at lunch, A, there's never enough money, and so in some sense, the banks have that, but there's an unsatisfactory process for who gets the money. How should this work and how could this potentially work?

Caroline Nagy: I think I might-

Chris Bosland: Work. And how could this potentially work?

Caroline Nagy: Actually, I think I might throw that question over to Miyuki because she informed me at the break that this is her area of special expertise.

Miyuki Hino: How should anything happen is always a very hard question to answer. Yeah, so we certainly know that there's a lot of demand for buyouts. So just we're clear, a buyout is when the local government buys your property, tears down the structure, restores it to open space, and it's deed restricted so it can't be built on again. And I think that's the huge difference between a buyout by a local government and another entity, is that that land is not going to be built on again. So it's very different from flipping, right? Because there are instances of governments buying houses than reselling the property for development. So, we have seen many instances after disasters where the number of people who want to buy out exceeds the amount of money that's available to do it. Currently, the process for getting a buyout requires, one, that your local government is willing to do it, and I guess hypothesized, largely for tax-based concerns. Local governments are often hesitant about doing that because that means taking a property and restoring it to open space. It also means that your local government has to have the cost share, the local cost share for the federal grant. That's not always the case. And then finally, your property has to pass a bunch of eligibility requirements. So that involves a lot of documentation. You can't be underwater on your mortgage. Although actually, speaking of potentially good things, the New Jersey State program for doing buyouts, apparently it has negotiated with banks to buy out homes that are in various stages of not in compliance with their mortgage. And so, they've gotten debt forgiven in instances and so forth. So that seems to be working. And then you have to ultimately get selected. It has to be cost beneficial, it has to pass all these requirements, and then you ultimately have to get funding from FEMA to do it. So we tend to see that high capacity local governments, they tend to be urban, they tend to be wealthier, these are the places that have the people who can navigate that application process. And then on the homeowner side, and this doesn't even get to the fact that renters are left out of this program entirely, people who kind of have certainly the linguistic savvy to navigate the bureaucratic system, they often have to be able to wait for years before the buyout goes through. So they have to have enough financial resources to manage that process as well. And they have to be able to afford somewhere to go once they sell that house. So that makes it just not an option for a lot of people who know that they live in a flood-prone place and would be interested in leaving if there was a real attractive option that they could move to. So I think in that sense, affordable housing is giving people real options. And I think without the supply piece, it's very hard to... Even if we had the money, without supply, it would be really hard because where would those people go? They would have to move huge distances from their job, from their schools, from their social networks and so forth. And so I think one piece of the puzzle is actually just expanding supply of affordable housing in safer places. Because if you don't have that, the rest of the conversation is really hard to have. Expanding funding, I think, as I just mentioned, engaging financial institutions in this, I think should be part of it because the government has decided that it would be better long term for nobody to live in that property. And so the idea that you can engage a bank in that process, I think is sensible. And then not having it be limited to right after a disaster, because that's often the hardest time for people to make these choices, so creating a system that's not quite so time dependent. All of that I think helps make it less stressful, more realistic, a conversation that doesn't feel like you're actually forcing someone out of their house, but really giving them options to think about how they want to live and where they want to live. So I agree that in the big picture, there are places that we are going to say that's not the wisest place for people to live, but how we navigate that process, it's all in the details of how we make that happen.

Chris Bosland: Did she stall long enough? Thank you for that.

Caroline Nagy: Yeah. Just in local school funding, anytime that you rely on local government, you're kind of defacto creating a inequitable situation where the wealthier, more well-resourced are going to be able to take advantage of the program, and the rural poorer communities, less so. And that's frankly a structural aspect of how we approach disaster recovery. Generally, if you look at who benefits the most, it tends to be wealthier and whiter folks, obviously homeowners. And who is in the worst position? Renters, lower income, people of color. Those are the folks who needs are not being met by our disaster recovery system. So I think ultimately, we need to separate this long-term resiliency work, including buyouts, from our disaster recovery framework because that's really meant to be a one-time, time limited kind of episodic shot. And that's just not where we are in terms of where we need to be as a country. And so, I think that is another. And I know that the federal [inaudible 01:36:29] you can't single handedly drive all of this policy, but I think there's so much unmet need here, and there's a need for a lot of information and technical expertise as well. And I think that is something where there can be a role.

Chris Bosland: Yeah, it is very interesting, definitely to think about. As Steven said, the political issues, small people political issues, not least if the federal... A federal entity is perceived as moving poor people out of a region, even if there could be some challenges there. But David.

David Beck: Well, thinking about what Steve said about encouraging pilots, and don't want to over focus on the affordable housing program, but that is a place, I think to encourage pilots, using some of that grant money and as a way to figure, are there on bill, on mortgage financing programs that work for homeowners? Or to the rental housing, how do you encourage the competitive part of a AHP to experiment with some really creative energy efficiency programs for rental properties? So just something to think about, getting outside the box a little bit on AHP and going beyond the normal what we've been doing.

Steven Rothstein: And first, it is complicated, clearly. And if it wasn't, it would've been figured out and people would've solved it already. So it's not suggesting... But if there's enough pilots and enough different areas, and we're gathering that information, learning from smart professors and others, and starting with the assumption we can't do nothing, that is not a decision anymore. And I'll go back to the Florida example, what's happening in California, and there are many, many other states. I was talking to the insurance commissioner recently in one of the states on the east coast where she said they had more risk to their houses from houses living by streams than they did by the coast. So it's not just a coastal issue as well. Never mind there are seven states now that are in an out west debating who's going to get water. And so in two states, they've literally stopped housing developments because there aren't enough. So, there's too much water in one place, not enough droughts. So, it is really hard, and that's why I said earlier, we all have to do it together. The Federal Home Loan Bank system alone can't do it, but they can play a critical role directly and through their leverage of the capital they're giving to the banks.

Chris Bosland: Thanks. I'm going to ask this question because it's something that's... It's probably the wrong question to ask, but when we talked about... At a high level, we live in a world of scarcity, if I have a dollar as a policy maker, do I put it towards keeping people where they are in retrofitting, or do I... I know the answer's going to be Yes, but in terms of [inaudible 01:39:46], how do we think about that? Just curious. And if you don't want to answer, that's fine. I'll move on. But it's just in the course of the discussion, a lot of this is we need to keep people here, but we got to recognize we may have to move them out. And so if we're in both worlds, we need to be to a certain extent. But just in terms of prioritizing that, how do we do that? Because we're not good at that in the government.

Caroline Nagy: I think it's a matter of cost effectiveness. If you can toughen up a hard enough a place, invest in... That is a lot. Invest in strengthening there is always going to be cheaper than tearing down and building new elsewhere. And the truth is not... Most places won't be completely underwater. And we have a lot of... Yeah, I think it's just the... There's so much. I think it really depends, which is not probably the best answer. It's a little bit different than both end, I guess. But yeah, I think if it's cheaper, if you can make some investments and keep a place safe, that is the most important. I think when it comes, especially to buyouts, that's where the human safety, which is the most important thing, has to trump everything else. And so, I think at CA, you have to kind of look at. Yeah, you have to look at, first and foremost, the potential for harm to human life. And then from that point on, as long as that's not the type of place that you're at, cost effectiveness, and how can we save money, reserve money for the hardest, most desperate cases while still giving more resources for folks in areas that aren't necessarily the worst off, but worse than average, let's say?

Chris Bosland: And in the home loan bank world, when we say it depends, that's an endorsement of the regional nature of the home loan bank system. That's the thing. No, thank you. Steven.

Steven Rothstein: Yeah, clearly, I think... Well, I don't want to speak [inaudible 01:42:03]. If somebody is literally homeless or they're literally bleeding, you solve the immediate problem, absolutely. But what's the solution? And you build in energy efficiency in those solutions or where they're moving to. I'll give you an example of... And this is an example, not for the home loan bank, but talk about how systemic the problem is. Because there are less trees planted in low income communities, low income communities are 2.3 degrees warmer than wealthier neighbors. So you could literally be few miles down the road and there is more asthma, more health issues. So if the community planted more trees, again, that's a long term solution, then you would affect the health of everyone in that area. That's just an example of some of those. So it is an end, and we need more money. And the president, for example, put another billion, I think it is to FEMA. It's needed. There are many states. We are going to pay now or pay later. And I think about the next generation and all of our kids and grandkids.

Miyuki Hino: I think my first reaction was that there's probably more sources of funding available to keep people in place than to actually restore land to permanent open space. So if I had that extra dollar, I would send it to the latter because there are just fewer options for doing that. I do think that we're... Certainly, if you look at the National Flood Insurance Program and the way that's being led, there's clearly an understanding within that operation that buying out homes and restoring to open space is for a good chunk of homes, and there's still going to be better than elevating. So, for certain homes, I think for the most hazardous places, I think there probably is a sense that, in the NFIP, they're trying to stop the bleeding by taking those properties off of their books essentially. I don't think that's true most of the time. And so most of the time, I think if you can keep people in place and keep them safe, great, because most people would prefer not to move. Climate resilience and affordable housing, I think are just... We're going to see clashes more often where their question is going to come up of, should we build affordable housing in dangerous places if we have such a housing supply crunch? Is it still worth it to do in hazardous places? And then if you have affordable housing in extremely flood-prone from places, is it worth it to buy out those homes and remove that housing from the supply? And so I just think those questions are going to come up again and again and again. So frankly, any dollar that you can spend building an affordable house in a safe place is probably the longest term, kind of most flexible way to try to address the problem.

Chris Bosland: Thank you for that. I'd like to maybe pivot a little bit to a slightly different perspective. We've been talking about what the home loan banks could do or should do, might do. But let's look at the home loan banks themselves. And how should the banks and the system address their own exposures to climate related and natural disasters in connection with their, say their collateral or mortgage purchases? Does anyone have any thoughts on that? Because that's one thing that they need to do is to sort of understand what risks they're taking currently from a risk management perspective. Steve.

Steven Rothstein: Yeah. So just as every bank needs to ask its customers, where are they invested and what are the risks, because a physical risk or transition risks, the Federal Home Loan Banks, same thing to their customers, the banks, and to understand, and then through them, through their customers. So to literally first do an assessment, what is their risk? And it's often referred to as kind of scope three, their financed admissions, and then develop a plan. It's saying, okay, here's what our risk is today. And in five years from now, where do we want to be, and in 10 years, in 20 years? Never going to get to zero risk, but what should that risk be? Some, they'll be able to control. Some, they're not going to be able to control. And then that plan will drive their new loan decisions. For example, if a bank comes in, they want to borrow money, or the bank's going to do a hundred new gas stations versus a hundred EV, charging stations, well, what's going to be around in 20 years? And so understanding, again, ask the banks and through the banks their customers, what their risks are, and then develop a transition plan.

Chris Bosland: Caroline, I can't tell whether you're returning your card or-

Caroline Nagy: Oh, yeah.

Chris Bosland: It's kind of halfway.

Miyuki Hino: [inaudible 01:47:15] Yeah.

Caroline Nagy: Obviously, all member banks are awaiting the climate supervisory principles, that from the federal banking regulators that we expect to be finalized this year. And we're obviously waiting to see what those are. But definitely, even I think to the extent that they're good, smaller banks, even though it's not classified as the large banks, that hopefully will have good principles. Obviously, climate risk officers. I know the

Federal Homeland Bank of New York has a climate risk officer, but I don't believe that all of them do. But that's important for operating good climate risk management practices, integrating climate specific considerations into the broader portfolio and balancing them with business needs. I think another risk that we've talked about quite a bit, and some of our comments to the regulators... And I say, I would mean the green finance team who knows a lot more about this than I do at Americans for Financial Reform Education Fund. But we need to educate members on climate related physical and transition risks, as well as climate related and green financing opportunities in greenhouse gas and pollution reduction projects, as well as climate resilience projects. And then also, to the extent that as banks analyze their risk and potentially withdraw from certain areas, keeping in mind the risks of violation of the Fair Housing Act, Fair Credit Act, Community Reinvestment Act, because we do know that there is a racial component to climate risk, and that pulling out in that way could lead to outcomes that would violate those bills, those laws as well. So that's something that we have really emphasized as part of climate supervision, those existing legal risks.

Chris Bosland: Miyuki.

Miyuki Hino: Yeah, I think, so climate change can widen inequality in a couple of different ways. It can through actual events and the unequal recovery process that happens. I think the potential... So I'm all for... I think every institution should know their climate risks, absolutely, and should factor that into decision making. At the same time, I worry a lot that I guess strategic withdrawal of investments from certain places due to future risks or potential future risks introduces a lot of room for bad inequitable outcomes. And so when we think about future risk and what might be most risky in 30, 50, a hundred years, part of that is the climate. The other part of that is where we invest in adaptation. And so you can imagine that... I get asked this all the time. I get asked, why are people still paying millions of dollars for waterfront condos in Miami? And one real possibility is that they believe that collectively, the local, state, federal government is going to spend a lot of money to protect Miami, keep the risks low, and they're going to be fine in the long term. And so capital will keep flowing to those areas where people are optimistic about adaptation. There's a whole lot of places that aren't Miami and people aren't going to be as optimistic about adaptation. And so if we withdraw capital from those places, which maybe have the hardest time accessing capital already, then they don't actually have the money to make the protective investments they need, their risks actually do go up really quickly over time, and then it's almost a self-fulfilling prophecy where we've said, "I don't think they're going to adapt," and then we take away their resources that they could have used to adapt. And so I really do think that basing decisions today on

2100 risks, where we control so much of that risk and how that involves in the future in terms of where we invest in infrastructure, can introduce undesirable outcomes, and needs to be done really, really carefully.

Chris Bosland: Steven?

Steven Rothstein: I agree. Excellent point. Just quickly, and the regional home loan banks may be doing this now, but is there, as Carolyn said, a climate person designated each one? And then are they meeting regularly with Fannie and Freddie and HUD and FEMA and the other agencies just to share information, that in our experience, there's been a lot of siloed information among different agencies? So that may be happening. I'm not aware of it. But if not, that would be very helpful to reduce those silos.

Chris Bosland: As of the initiative at the agency, there are meetings occurring across our regulated [inaudible 01:52:33], which include the enterprises and the home loan banks. David.

David Beck: Yeah, just sort of what-

Chris Bosland: Not that say there shouldn't be more or more effective ones, but anyway. Sorry,

David Beck: What Steve was saying, I think making sure it's done in concert with the regulators and the other GSEs. And Fannie and Freddie underwriting standards, how does that play what the Federal Home Loan Bank, what sort of haircut on what types of loans the Federal Home Loan Banks are going to buy? And so how do you coordinate all that, I think is critically important.

Chris Bosland: Caroline, did you want back in?

Caroline Nagy: Oh yeah. Just building on something that Miyuki said, I think, yeah, these decisions that we make now, especially if we don't take into account equity concerns, can really have huge impact. And let's talk about redlining. That is something that formally as a practice ended decades ago, yet you can still make incredibly strong correlations of redlining with a lot of childhood asthma, hospitalizations, for example, lack of trees, all of the things that we don't want. And those impacts are still persisting two generations later, I think should give anyone pause in thinking about how we approach this and ensuring that we take seriously the principles of racial equity and ensuring that underserved people are served.

Chris Bosland: This is obviously an involving area, and I know Caroline, as associate director, has a portfolio of home loan banks and she's keeping tabs on what they're doing in terms of risk management and environmental risk. But Richard, recognizing that there's still guidance to becoming forthcoming, anticipated from the primary regulators and so forth, but presume you're not waiting around for the government to tell you what to do. But I'm just curious, how are you managing? Are these discussions that you're having within your own institution about environmental risks and how to manage those on an emerging basis, or is this still early days for you? I'm just curious.

Richard Moore: No, it's not early days at all. If you don't manage your risk, you're not in business anymore.

Chris Bosland: Right.

Richard Moore: So, this is the term enterprise risk. We're a for-profit company. And so anybody who is... The interesting thing about the financial business is that our product is very unusual. And when I say that, most people who are in the sales business, the sale occurs once. If you're selling pants, you're selling sneakers, somebody comes in the store, they buy them gone. They might come back, but they're gone. In our business, the sale is every day until the loan is retired, until it's paid back in full. And so I'm sure there's some people out there that there was not a regulatory focus on this might ignore it, but they should be fired from their job if they did. So, yeah, we have a pretty large market share here in New Hanover County where we sit today. It's interesting how my bank got here. We took over the largest failed institution in the state of North Carolina that was headquartered here. We bought them in partnership with the FDIC 10 years ago. We're very cognizant of where we loan. We don't do any multi-family anywhere near the ocean. We don't do a lot of ocean close to anything housing. The point has been made though that the risk is just as high in other places that are nowhere near the ocean. And one of the great things about North Carolina is, not in my lifetime, we ever be fighting with 10 other states over water, because any hill you go over, you run into another creek. We got plenty of water. So we spend a lot of time on this. But at the same time, our regulators are also encouraging us. We have to have a... We are so regulated. And don't get me wrong, what we get for that regulation is we get to go to ordinary Americans, and we get to take deposits from them, and those deposits are insured by the federal government. So, we should be regulated. But we have a new model that doesn't even come from our regulators. It comes from the accounting side of our regulators. If you are a publicly traded company, you have to have external audits that are done by the SEC. Well, that doesn't have anything to do with financial regulators. We're like Ford Motor Company in that way. Well, in our external audits, when you do what we do for a living, we have something that's called CECL. Now we're in the second or third year. We set aside our loan loss reserves. When we make a loan, we have to set aside the money up front. And environmental factors are in that program, and they're changing all the time. So they're being put in that way. But then as I said earlier, our primary regulator is a federal reserve. And for eight years, I chaired the state banking commission as part of being the former treasurer of the state. Through the traditional regulatory channels, we are being asked right now, it's not mandated, but how are you forecasting this risk? And that's not a conversation they're going to have to push very hard on for the reason I said earlier. We make loans and don't get paid back. We're out of business.

Chris Bosland: Thanks. All right. Going to turn it back over to Karen to talk about transition risk or whatever she wants to talk about.

Karen Burk: Right. Okay. So doing a deeper dive into transition risk, building off a lot on what you were talking about. So how can the Federal Home Loan Bank system help promote alignment of financing and capital towards a future with lower greenhouse gas emissions?

Chris Bosland: Are you talking about building materials?

Karen Burk: That, and technologies as well.

Steven Rothstein: Yeah. So there are a variety of ways, but for example, there is low carbon cement exists out there now. And this is now for the federal government, half of the cement in the United States is paid for by the federal government, not just for housing, but for other things as well. So the Federal Home Loan could offer a-

Steven Rothstein: Well, so the federal home loan could offer a haircut in the rate if people used efficient building products in terms of wood, low-carbon steel, low-carbon cement. David talked earlier about the energy efficiency require or incentivize Energy Star program. So there are a variety of things, some that are out standards now, the green building standards and those that, again, some that are existing now, but they could go even further in terms of those materials. The same on the area looking at indigenous populations and protecting the berms and the other areas there. So there is a number of areas there. And in information, just in terms of smart homes, to build that in. So we're looking at that information. Where I live, I get something twice a year from my electric company that tells me my energy use on a per-square-foot basis compared to the community. So I know that I'm more or less efficient, as an example.

Karen Burk: All right. Maybe could you speak a little bit more about how that could be operationalized? If you're talking about very specific information about different properties, how that could be operationalized, going from the member understanding that to the Federal Home Loan Bank understanding that?

Steven Rothstein: Well, so I'm not in the Federal Home Loan Bank, so I can't answer it at a technical operational, but generally if the Federal Home Loan Bank said that they were going to ... This is a little bit of a simplistic example, but for new construction, for low-carbon cement or energy efficiency or a variety of things, that there's a slight discount on the rate. That there is, first, a lot of information sharing, publications, research, convening so that all the member banks have that information. Because I agree that any bank that knows this would want to do it. There are probably a lot of small banks that aren't aware of all these details, so that if they could share that information and then offer that at a discount, and that could cover a variety of areas.

Karen Burk: David?

David Beck: Yeah, I was just going to follow up on the convenings part. I think that the banks have do a great opportunity. The Atlanta Bank that had on Heirs Property last fall, and I think that was really useful. So you've got local bank members like Richards Bank, our credit union, we know how to make loans. Our loan officers go out and make loans, and they have certain tools in their tool buckets to make those loans with including the Affordable Housing Program down payment assistance for low income borrowers. They don't use those tools if they don't know about them or they're not efficient. So to the extent that the bank can offer haircuts or whatever and incentives for energy efficient tools, that's one part. The other part is getting the word out there to the local bank members. That's where I think the convenings and educational experience come in as a really an easy-to-overlook step. But I think the banks, they have that convening power and should really maximize it.

Karen Burk: Caroline?

Caroline Nagy: I think, in particular, training programs for green lending, particularly focused on smaller institutions, CDFIs, community lenders. One example that we've seen recently that we like is the Inclusive Center for Resiliency and Clean Energy's Virtual Solar Lending Professional Training and Certificate Program, which is designed for individuals with more than a year of lending experience who work at community-based lending institutions. It provides training in commercial and consumer solar lending. That's a program that already exists, but there's a lot of similar needs. Fannie Mae has their green financing business. For pilots that might be another area already within the agency. I think just overall, technical assistance, there's a huge range of supports that can be undertaken there.

Karen Burk: All right. This is another broad question building on a lot of the discussion here today. So should the Federal Home Loan Bank system's mission include providing capital and grants to support the development of technologies needed to reduce greenhouse gas emissions such as energy-saving technologies, clean energy technologies, or clean transportation?

Caroline Nagy: Yes.

Karen Burk: You got a bite on this.

Richard Moore: No, I just think if it chose to do so, it would be extremely inefficient.

Karen Burk: How so? Can you elaborate?

Richard Moore: Because it would be so far removed from the way the entity functions that while it might sound good on a piece of paper, it would have almost no effect. That's what I mean by inefficient.

Karen Burk: The entity as being the Federal Home Loan Banks?

Richard Moore: Yes. I just cannot envision, while it's a laudable goal, I cannot envision what you would do that would have a meaningful impact on that specific question, on the elimination of greenhouse gases.

Steven Rothstein: Can I just ask a question? For example, we talked earlier about positive or negative incentives. So if they said a loan that had a lower risk, lower greenhouse gas, slightly lower basis points and one's higher, slightly higher, there's a lot of nuance there.

Richard Moore: Yeah, but Steve, I mean, I'm not disagreeing with any of this, but you give a haircut to everything, there's nothing left. And so what's more important? Is it affordable housing? Is it smart construction? Is it reduction of greenhouse gases? All of these things are really important, but this is a Federal Home Loan Bank we're talking about. I mean, it's not the EPA. You asked the question. I gave you an honest answer.

Karen Burk: I appreciate that. Does anybody else want to fight on that one or should I move to the next question? All right. How could the Federal Home Loan Bank's products and services be modified or expanded to serve that mission? So I think we're saying this would be challenging to do.

Richard Moore: I may be the only one saying this, and I understand that.

Steven Rothstein: No, I mean it would definitely be challenging. Again, as I said earlier, if it was easy, it would've been done. I don't believe by any means, the Federal Home Loan Bank system is the primarily "responsible," but they are directing enormous sums of capital and we will have an enormous impact on home ownership in the next 50 years in terms of what our country looks like, where people live, what kind of homes, and so that they can have positive and negative incentives. If they just did what Richard Bank does, what he just said, and again, I'm just using those as examples, that alone would be building climate into their decision making.

Richard Moore: I agree with that.

Caroline Nagy: I mean, can the Federal Home Loan Banking system single-handedly end climate change? Absolutely not. Does every single financial institution need to do something? Absolutely yes. I think there are already a number of programs that can be used for disaster assistance in the FHLB's existing programs and tools. I think expanding that as is important.

David Beck: I mean, I brought it up earlier, I think some things are easier to do than others. I think requiring an energy efficiency appraisal, maybe that's something that you get Fannie and Freddie to require, or something like that, or there's a haircut involved. I mean, I think there has to be. It's inherent on all of us and on the Federal Home Loan Bank and FHFA to find ways to address climate change.

Richard Moore: Dave, that is actually a great example, and you pick the entities. If the sister agencies who are primarily responsible for deciding what goes into the secondary market, but they stepped up and made that a requirement of closing, that's much more efficient than anything this entity could do. And a good idea.

David Beck: And it feeds into this entity because I'll give better rates to loans that are conforming.

Richard Moore: And your collateral safer. Your collateral is safer.

David Beck: Yeah. So.

Karen Burk: We think beyond collateral haircuts, but collateral types, does that inspire any thought or discussion?

Richard Moore: Not for this question of greenhouse gases. I mean, I don't know that that would be relevant either, in my opinion.

David Beck: So, when you say collateral types, what do you mean on different collateral types?

Karen Burk: So, considering what collateral types could be an option here to support funding of technology and shifting the economy away from adopting technologies ... allows it to adopt technologies or otherwise start hacking away at this very big evolution that needs to happen.

Steven Rothstein: So, we talked earlier about eligibility- Sorry I interrupted you.

Karen Burk: Go ahead.

Steven Rothstein: So, we talked earlier about eligibility, so I don't know if that's type, but who gets to borrow it and what they're borrowing it for? Should it be some of the large banks that have essentially pulled out of the mortgage market and if they didn't get it, would you reallocate to other people? And then can there be a list like the insurance commissioners do, of, as I say, there's 400 insurance products that have climate, could there be a process here? And this might be something more that FHFA could do and make available to everyone else as part of that. I'm not sure if those would fit in.

Karen Burk: All right. So this is another question around transition risk as well as just risk management for the institutions. So in addition to climate risk events, financial sectors are vulnerable to abrupt and unpredictable shocks from new business models that can capitalize on low carbon technologies and disrupt existing business models. So should the Federal Home Loan Bank system strive to insulate itself from these vulnerabilities, or should it play a role in helping to stabilize the financial sector as these events occur, such as providing funding to bolster solvency of a firm experiencing significant loan losses stemming from a business model disruption?

Richard Moore: That was a long artfully worded-

Karen Burk: That was a long one.

Richard Moore: **A**voiding of Silver Gate and Bitcoin if I ever heard one.

Caroline Nagy: I was thinking the same thing.

David Beck: I mean, should the Federal Home Loan Bank bailout institutions that are experiencing high stress due to technological events? Is that sort of the question?

Karen Burk: That would be another way to paraphrase it.

David Beck: I would say no. I mean; I'm just trying to think what ... Anyway. But I'm hard-pressed to think of an exact situation. I mean, the bank doesn't really bail out anyone. I mean, they're not in the business of doing that, are they? They're in the business of collecting when banks go under.

Caroline Nagy: Yeah. Let's talk about the collapse of cryptocurrency and the very cyclical nature of this going back to Dutch tulips or whatever. There'll be another tulip or cryptocurrency. To the extent that the FHLB have a systemic role as a lender of a last resort, which we did see with Silver Gate, no, I don't think that's a very good thing for a quasi-public banking system to be doing.

Karen Burk: All right. Should we do our final round robins?

Chris Bosland: Yeah, no. I feel for Karen, because as a safety and soundness examiner, she wants to testify here, but she's not allowed. We were so close. I thought we were going to sing Kumbaya for a moment and then it fell apart. No. So we're not out of time, but we're near the end of the questions we had. So I do want to give you a chance after this next question to bring up anything that we haven't discussed. But we like to go around again, as I said the other day at one of these events, we can't walk and chew gum that well. So let's just hypothetically assume we can only do one thing. What would be the one thing that you would have us do coming out of this in relation to climate matters and other things we've discussed today? So Steven, I know you have a long list of things that you've provided to us, but if we had to prioritize, what would be your number one on your list?

Steven Rothstein: That's a very complicated question. So let me, if I can just take a step back on some of the earlier point and then answer your question.

Chris Bosland: Sure.

Steven Rothstein: So first is I agree with what was saying about the climate risk transition risk, but orders of magnitude, the European Central Bank did an analysis of the transition risks of the banks with the ECB. Then we took that same analysis and did it for the largest banks in the United States. If you just take the largest 26 banks in the United States using the same methodology that ECB, it's literally hundreds of billions of dollars a year potential. Hopefully it won't happen, because of the transition risk. So the number there is very large. That doesn't mean that's all the Federal Home Loan Bank's responsibility, but just an order of magnitude of that. In terms of if there's one thing, I think it would be more information and more accountability at every level. So, information at FHFA, the Federal Home Loan Bank, the regional, the bank, so that people have, homeowner, renter information, and that there is a system of people to deal with. Like any problem, any business person has smart goals, and they're putting people assigned to a certain task. So it's more information and then accountability to address those. I think that's two, sorry.

Chris Bosland: It's all right. We'll let it in. Caroline.

Caroline Nagy: This is a very hard question. I think I would say as part of the re-imagining assessing of a bank's purpose, I think expanding the amount of resources from the system or to assist with climate resiliency, disaster recovery, and all of the wonderful things that we've talked about today, really should be an end. I'm really hoping that it will be one of the outcomes of this process.

Chris Bosland: Thanks, David.

David Beck: Well, yeah, I think it's exciting to think about what the bank could be in the future. It's been pretty standard and has lost some of the relevance, I think given the number of lenders outside the bank system that are using the bank now. But we talked about this at lunch. What if it was called the Federal Community Loan Bank instead of the Federal Home Loan Bank and broadened its mission in that regard. The wild idea I had driving down was what if the Federal Home Loan Banks got into providing ag credit for its members? Because right now, community banks and credit unions are excluded from the GSE ag world because ags, GSE pretty much is insular to its own members. So you've got a very unfair advantage in that situation. So a bit off-topic, but there's a lot of climate issues, obviously in ag as well. So I'll just throw that out there.

Chris Bosland: All right. That's a complicated one, but certainly interesting. Miyuki.

Miyuki Hino: I think if I had to say one thing, it would be explicitly incentivizing construction of affordable housing in safe places. I think there is a rationale to incentivize that for smaller financial institutions where their risk is less likely to be geographically diversified. I think it addresses a lot of the underlying drivers of climate risk and climate impacts in addition to other societal problems that we have. And where pulling money away strategically from certain places, I think presents more concerns. Proactively trying to invest in places where we believe they're going to be safe and we can build energy efficient homes, dense neighborhoods, access to educational and economic opportunity, I think that is almost a safer approach than trying to strategically withdraw from certain places that we worry about being risky in the future.

Chris Bosland: Okay. Richard?

Richard Moore: So, I don't really think the original mission has changed that much. The banks have a very special charter. They have a special way to make money that is sanctioned and protected by the United States government, and it was a laudable mission to provide liquidity to ensure that there was a healthy housing market in this country 90 years ago. I think that while you could certainly, and the result of having the privilege of spending time with all of you this afternoon, has convinced me that maybe the definition of healthy has changed somewhat. What is a healthy housing market? It's still the same. We all want, our society benefits greatly from having as many people owning homes as possible, and they'd like for it to be a good investment so they don't need to buy something that they can't sell or it's poorly made, but to just go back to try to simplify that mission, I think would be a smart thing to do.

Chris Bosland: Well, great. Well, I did promise that I would allow you to bring up anything that you'd still like to ta- Actually, there's one thing I wanted to ask Caroline, in your written comments, you raised in the response to a question about whether structural change was necessary, you raised the point about executive compensation, so I did want to ask you what you meant by that.

Caroline Nagy: Absolutely. So I'm not talking about the bank members.

Richard Moore: We're not getting. I'm one of the worst paid CEOs at a bank in America and somewhat proud of it. So go ahead.

Caroline Nagy: Yes, I think obviously the Federal Home Loan Banks, I think there's actually a few different inefficiencies with the system. I understand there doesn't need to have regional expertise, but I don't think you need to have all of these banks each with their own systems, their own IT systems, C suites. I think that there could be some efficiencies made there that would free up more funding for the kind of things that we're talking about here. Executive compensation, it's not a private bank. I mean it is and it isn't, but it's enough of it not that it should be public sector in line with the salaries at the Fed and other agencies.

Chris Bosland: Okay. I appreciate you wading into that. So thank you. Anybody else have anything they want to bring up before we close? Any last thoughts? All right.

Steven Rothstein: I'll just mention there's a study in yesterday's New York Times that talks about real estate developers. What it says is that there's 112,000 real estate development firms, 112,000, less than 1000 is owned by a Black or Hispanic owned. So can the system provide incentives, education, it's bully pulpit, I don't know enough, but that was a very sobering statistic just in terms of thinking about the inequities in our system.

Chris Bosland: Well, thanks. All right. Well, I do want to thank you all for participating. I will confess on a personal note that approaching this round table, Richard, my thoughts may align with yours in the sense that I was thinking the home loan banks is not really their bread and butter, it isn't the first organization you think of about when you talk about climate risk. But I did learn a lot today, and I appreciate all of your comments in particular the idea of convenings in different vectors of using their power of that and their reach in that regard, if nothing else, but to improve information flows and data and awareness is certainly low hanging fruit to a certain extent, but could have longer reach. But then some of the other more broad, far-reaching ideas you've discussed today have been very helpful. So, thank you all today. A couple of panelists had to drop at the last minute, and I don't think we missed a beat, so shame on them. No, no. But thank you all for filling the gaps. I also want to give a big thank to our FHFA team. As I mentioned, this is 14, I think we're going to have 19. So we're on the home stretch. This initiative has caught a lot more air than the system is used to things catching related to the Home Loan Banks. But I think it's a good thing. There's been a lot of interest from a lot of different quarters, and this has been very helpful. But again, so thank you to the team. They've worked very hard on this and done a great job. So, I do want to say particularly for the folks on the web stream, please visit our website. This broadcast as Karen mentioned, as well as the prior ones, are there. We have information about the upcoming round tables. I think next is Wednesday. We'll be in Puerto Rico talking about access to the system from there. We've got some virtual round tables next week and one on governance and structure in Boston this coming Monday. After that, we will be having a wrap up listening session. It again, the junkies of this initiative, that's how we kicked it off with three-day listening session. We'll be having a similar listening session for people so they'll have an opportunity to respond to things they may have heard at the round tables and otherwise. Our website is currently open for submitting additional written comments if people have thoughts they want and specifics they want to provide us. So please encourage you to submit things for our consideration that we didn't get to discuss today or on any other topic. So with that, I'll let everyone go and thank you very much and thank you to UNC Wilmington for hosting us. Thanks.

Steven Rothstein: Thank you.

Caroline Nagy: Thank you so much for moderating.

Karen Burk: Thank you.

David Beck: Thanks very much.