Webinar

ULI San Francisco: Why Electrify

Date: March 03, 2022

00:00:00 --> 00:00:03: Alright, we're going to go ahead and get started with
00:00:03 --> 00:00:04: today's webinar.
00:00:04 --> 00:00:07: My name is Michelle Malkin Fry and it is my
00:00:07 --> 00:00:10: pleasure to be here with you today on this webinar
00:00:10 --> 00:00:13: on why electrify the call for all electric buildings and
00:00:13 --> 00:00:15: what it means for you.
00:00:15 --> 00:00:17: Some of you might know me as the former executive
00:00:17 --> 00:00:20: director at ULI San Francisco today.
00:00:20 --> 00:00:23: I'm an advocate and advisor on building decarbonization and clean
00:00:23 --> 00:00:24: energy in the built environment,
00:00:24 --> 00:00:27: and it's my honor to be the moderator of today's
00:00:27 --> 00:00:28: webinar.
00:00:28 --> 00:00:30: This session is part of you,
00:00:30 --> 00:00:33: Elisa. Net 0 imperative initiative and this initiative.
00:00:33 --> 00:00:37: 7 global cities this year will be working with District
00:00:37 --> 00:00:41: Council ULI District councils on the ground on their building
00:00:41 --> 00:00:45: decarbonization initiatives so that we can get closer to net
00:00:45 --> 00:00:47: zero carbon emissions. In ULA,
00:00:47 --> 00:00:49: San Francisco is working with the city of San Jose
00:00:49 --> 00:00:54: on their building electric existing building electrification plan with the
00:00:54 --> 00:00:57: goal of this collaboration is to create awareness of the
00:00:57 --> 00:01:00: plan and help the industry understand why buildings are being
00:01:00 --> 00:01:03: electrified and how they can electrify them.
00:01:03 --> 00:01:05: And so this is the first webinar and there will
00:01:05 --> 00:01:08: be a second webinar coming up on April 10th.
00:01:08 --> 00:01:11: This webinar today is really on why electrify,
00:01:11 --> 00:01:14: and if you want the main reason why to electrify

00:01:14 --> 00:01:16: is primarily due to climate change.
00:01:16 --> 00:01:19: The number one thing we can do to address the
00:01:19 --> 00:01:21: climate challenge that we have,
00:01:21 --> 00:01:24: the number one thing is to electrify everything and power
00:01:24 --> 00:01:28: it with clean energy and so it's critically important that
00:01:28 --> 00:01:30: we get our buildings off of fossil gas and I
00:01:30 --> 00:01:33: think most of you know that about 50 cities around
00:01:33 --> 00:01:36: California have already banned new natural gas and new building
00:01:36 --> 00:01:38: construction and now cities are looking at.
00:01:38 --> 00:01:41: Existing buildings and how to tackle that challenge,
00:01:41 --> 00:01:44: and that's what the city of San Jose is doing.
00:01:44 --> 00:01:46: This is not only important for climate change,
00:01:46 --> 00:01:48: but it's also really important for human health,
00:01:48 --> 00:01:50: and we're going to hear all about this in our
00:01:51 --> 00:01:52: presentation today.
00:01:52 --> 00:01:54: As I mentioned, this is the first web and R
00:01:54 --> 00:01:54: series.
00:01:54 --> 00:01:55: This one is all about.
00:01:55 --> 00:01:58: Why electrify? We're going to talk about the drivers from
00:01:58 --> 00:02:00: both the private side and the public side.
00:02:00 --> 00:02:01: We're going to talk about benefits,
00:02:01 --> 00:02:04: and we're going to talk about challenges because it wouldn't
00:02:04 --> 00:02:07: be a webinar if we weren't having some real talk
00:02:07 --> 00:02:08: about how things work.
00:02:08 --> 00:02:11: So first and and we'll just be honest that existing
00:02:11 --> 00:02:15: buildings are a little bit more challenging than new construction.
00:02:15 --> 00:02:17: And just like with any retrofit.
00:02:17 --> 00:02:20: So in that second webinar we will do it be
00:02:20 --> 00:02:21: on April 10th.
00:02:21 --> 00:02:23: I think there should be a link coming up in
00:02:23 --> 00:02:25: the chat too that you can start registering today.
00:02:25 --> 00:02:28: It will also be free and that's going to be
00:02:28 --> 00:02:30: a bit more of a dive into the how we're
00:02:30 --> 00:02:34: going to be looking at some like funding and incentives
00:02:34 --> 00:02:36: and also some of the technical challenges,
00:02:36 --> 00:02:38: space constraint sequencing, things like that.
00:02:38 --> 00:02:41: But today is really going to focus on why.
00:02:41 --> 00:02:44: And before we get to that,
00:02:44 --> 00:02:47: here's let me see. I want to share the slide
00:02:47 --> 00:02:49: on our net zero imperative.
00:02:49 --> 00:02:51: There we go, it's finally advancing,

00:02:51 --> 00:02:54: and I want to also share just a little bit

00:02:54 --> 00:02:55: about you lie.

00:02:55 --> 00:02:58: So some of you might be new to you lie,

00:02:58 --> 00:03:01: and if you are the Urban Land Institute is a

00:03:01 --> 00:03:02: member based organization.

00:03:02 --> 00:03:07: We have 40 ULISFULI, has 45,000 members around the world

00:03:07 --> 00:03:11: and ULI San Francisco has about 2100 members.

00:03:11 --> 00:03:14: Here in the Bay Area if you want to find

00:03:14 --> 00:03:17: out more about you lie and how to join you

00:03:17 --> 00:03:19: can go to uli.org slash join.

00:03:19 --> 00:03:22: And another piece of housekeeping is just around this webinar

00:03:22 --> 00:03:23: format.

00:03:23 --> 00:03:25: I think you all are familiar with zoom by now,

00:03:25 --> 00:03:27: but there's room as a reminder.

00:03:27 --> 00:03:29: This is a webinar, and so to please,

00:03:29 --> 00:03:31: we ask you to please put your questions in the

00:03:31 --> 00:03:33: Q&A box or rather than at the chat.

00:03:33 --> 00:03:35: I'll be monitoring the Q&A box,

00:03:35 --> 00:03:39: as will my colleague Puja Sharma from ULI San Francisco

00:03:39 --> 00:03:42: and I'd also encourage you really to give us some

00:03:42 --> 00:03:43: love on social media.

00:03:43 --> 00:03:47: You can find Eula San Francisco Twitter handle right there,

00:03:47 --> 00:03:50: ULISF very easy. We'd love to hear from you.

00:03:50 --> 00:03:53: And don't be shy about your questions in the Q&A

00:03:54 --> 00:03:54: box.

00:03:54 --> 00:03:57: Electrifying existing buildings is new to everyone,

00:03:57 --> 00:04:00: so there's there are no dumb questions.

00:04:00 --> 00:04:04: I should also mention that today's webinar and the second

00:04:04 --> 00:04:07: one are going to focus on multifamily buildings,

00:04:07 --> 00:04:10: but I think that you're going to find that today

00:04:10 --> 00:04:12: a lot of the discussion is very relevant for all

00:04:12 --> 00:04:13: building types.

00:04:13 --> 00:04:16: So one more thing, I did want to just give

00:04:16 --> 00:04:19: you an overview of our of our agenda and we're

00:04:19 --> 00:04:22: going to have about a a 15 minute presentation from

00:04:22 --> 00:04:26: Panama Bartholomy from the building decarbonization coalition.

00:04:26 --> 00:04:28: He is the guy on building electrification,

00:04:28 --> 00:04:31: so we're very excited to have him here.

00:04:31 --> 00:04:33: And after that we're going to have a here from

00:04:33 --> 00:04:35: the city of San Jose from Elena Oh Meadow on

00:04:35 --> 00:04:38: their existing building electrification plan.

00:04:38 --> 00:04:40: Then we're going to go into a moderated discussion.

00:04:40 --> 00:04:45: Panama, Elena, and with Tom White and Kelvin hung.

00:04:45 --> 00:04:50: On who have experienced, electrifying existing buildings will have this

00:04:50 --> 00:04:53: moderated discussion until about 12:50,

00:04:53 --> 00:04:55: and then we're going to open the floor for questions

00:04:55 --> 00:04:55: from the audience,

00:04:55 --> 00:04:58: but as the moderator, I will be keeping that eye

00:04:58 --> 00:04:59: on the Q&A box,

00:04:59 --> 00:05:01: and so if there are things to weed and I

00:05:01 --> 00:05:02: will be doing that.

00:05:02 --> 00:05:05: So with that, I'd actually like to have all of

00:05:05 --> 00:05:07: the speakers introduce themselves,

00:05:07 --> 00:05:10: and so I'm going to start with Panama.

00:05:11 --> 00:05:15: Thank you Michelle Panama bartholomy with the building decarbonization coalition.

00:05:16 --> 00:05:17: Elena.

00:05:18 --> 00:05:19: Everybody good to be here.

00:05:19 --> 00:05:21: Lno Meadow Climate advisor working with the city of San

00:05:22 --> 00:05:24: Jose through the American Cities Climate Challenge.

00:05:25 --> 00:05:26: And Tom,

00:05:27 --> 00:05:28: everyone, my name is Tom.

00:05:28 --> 00:05:32: Why time yet Sociate director for building performance and sustainability

00:05:32 --> 00:05:34: at Eden Housing nonprofit.

00:05:34 --> 00:05:39: Affordable housing developer based in Hayward with over 33 communities

00:05:39 --> 00:05:40: in Santa Clara Valley.

00:05:41 --> 00:05:42: And Kelvin.

00:05:43 --> 00:05:46: Hi everyone, I'm Calvin home here.

00:05:46 --> 00:05:51: I am a small multifamily building operator and I'm based

00:05:52 --> 00:05:54: out of the South Bay.

00:05:54 --> 00:05:57: My buildings are in the Santa Clara County and I'm

00:05:57 --> 00:06:00: happy to share my experience.

00:06:00 --> 00:06:03: I've been through a couple of rounds of.

00:06:03 --> 00:06:09: Retrofitting electric appliances, and I'm happy to share with you

00:06:09 --> 00:06:11: all on my experience.

00:06:11 --> 00:06:12: Thank you.

00:06:12 --> 00:06:15: Great thank you and with that I'd like to hand

00:06:15 --> 00:06:16: over to Panama.

00:06:26 --> 00:06:29: And I will now put this in presentation mode and

00:06:29 --> 00:06:30: great to start.
00:06:30 --> 00:06:34: So thank you. To the city of San Jose and
00:06:34 --> 00:06:37: for you lie for having me.
00:06:37 --> 00:06:38: I'm really excited to be here.
00:06:38 --> 00:06:41: Thank you all for attending and spending your potentially lunch
00:06:41 --> 00:06:42: hour.
00:06:42 --> 00:06:44: We had registrants from all over the world sign up
00:06:44 --> 00:06:45: for this.
00:06:45 --> 00:06:47: So your lunch or dinner your breakfast?
00:06:47 --> 00:06:48: Whatever you're eating right now.
00:06:48 --> 00:06:50: Thank you for joining the presentation.
00:06:50 --> 00:06:54: I'm going to be talking about the why electrify and
00:06:54 --> 00:06:58: in particular some of the policies that are coming up.
00:06:58 --> 00:06:59: They're going to be driving,
00:06:59 --> 00:07:02: electrification, and then some of the why behind the policies.
00:07:02 --> 00:07:05: So you understand why policymakers are making these changes.
00:07:05 --> 00:07:08: And then some of the implications on things like technology
00:07:08 --> 00:07:10: and costs and I'll get it all done in about
00:07:10 --> 00:07:11: 15 minutes.
00:07:11 --> 00:07:15: So it's moving on on the building decarbonization coalition,
00:07:15 --> 00:07:18: which I found founded and run,
00:07:18 --> 00:07:21: is a coalition of utilities manufacturers of heating equipment,
00:07:21 --> 00:07:23: the design and construction community,
00:07:23 --> 00:07:28: government agencies and nonprofits all working together to eliminate pollution
00:07:28 --> 00:07:29: from the built environment.
00:07:29 --> 00:07:35: And we generally focus on four overall end uses.
00:07:35 --> 00:07:38: Those are water heating. Space heating,
00:07:38 --> 00:07:43: cooking and clothes drying. When you look at California's consumption
00:07:43 --> 00:07:45: of natural gas,
00:07:45 --> 00:07:48: those four end uses make up about 99%
00:07:49 --> 00:07:52: of gas use. And with the space heating and water
00:07:52 --> 00:07:53: heating alone,
00:07:53 --> 00:07:55: that's about 90% by itself.
00:07:55 --> 00:07:58: But those four end uses are the vast majority of
00:07:58 --> 00:07:59: natural gas use,
00:07:59 --> 00:08:02: and so our organization focuses on how do we bring
00:08:02 --> 00:08:06: about policy and market reforms to be transitioning those over
00:08:06 --> 00:08:08: to running on clean electricity.

00:08:08 --> 00:08:10: So I'm going to start on the policy side to

00:08:10 --> 00:08:14: give you a rundown about what California and regional agencies

00:08:14 --> 00:08:16: are planning around building decarbonization,

00:08:16 --> 00:08:20: or building electrification, or reducing pollution from burning fossil fuels

00:08:20 --> 00:08:21: and buildings.

00:08:21 --> 00:08:26: And the conversation really started in earnest on the policy

00:08:26 --> 00:08:28: side in July of 2019,

00:08:28 --> 00:08:31: when the city of Berkeley became the first city in

00:08:31 --> 00:08:34: the United States to put a ban on the development

00:08:34 --> 00:08:36: of gas and any new building.

00:08:36 --> 00:08:38: So any new buildings built.

00:08:38 --> 00:08:41: In Berkeley, would no longer be allowed to put natural

00:08:42 --> 00:08:42: gas in them.

00:08:42 --> 00:08:47: The 4th person to testify at that hearing was Darren

00:08:47 --> 00:08:48: Klein,

00:08:48 --> 00:08:52: the local government manager for four Pacific Gas and Electric

00:08:52 --> 00:08:56: and PG and E is the 4th largest distributor of

00:08:56 --> 00:08:58: natural gas in the country.

00:08:58 --> 00:09:01: They own one of the largest networks of natural gas

00:09:01 --> 00:09:05: distribution in the United States and Darren got up there

00:09:05 --> 00:09:08: at the City Council meeting in Berkeley and said PG

00:09:08 --> 00:09:10: and E is here to support Berkeley.

00:09:10 --> 00:09:14: In helping us stop the expansion of our gas network,

00:09:14 --> 00:09:18: we recognize that an expanding gas network that provides fossil

00:09:18 --> 00:09:20: fuels doesn't have a role to play in California.

00:09:20 --> 00:09:24: With its climate future, and we don't think customers are

00:09:24 --> 00:09:26: going to be able to afford and expand a natural

00:09:26 --> 00:09:28: gas system out into the future.

00:09:28 --> 00:09:31: And so it was a pretty monumental step for PG

00:09:31 --> 00:09:33: and E to get to the point to be able

00:09:33 --> 00:09:34: to make that statement,

00:09:34 --> 00:09:36: and a really, I think,

00:09:36 --> 00:09:39: clear message to anybody in PG and E territory about

00:09:39 --> 00:09:42: what this key development partner thinks about the future.

00:09:42 --> 00:09:45: Of natural gas since then,

00:09:45 --> 00:09:50: 56 other cities in California have adopted a similar policy.

00:09:50 --> 00:09:52: San Jose, San Francisco, around the Bay,

00:09:52 --> 00:09:56: Silicon Valley and into the South have adopted very similar

00:09:56 --> 00:09:57: policies to this,

00:09:57 --> 00:09:59: and what that did is I started to force action
00:09:59 --> 00:10:00: at the state level,
00:10:00 --> 00:10:04: and so the Public Utilities Commission has opened up proceeding
00:10:04 --> 00:10:08: to talk about how do we manage this transition off
00:10:08 --> 00:10:09: of natural gas?
00:10:09 --> 00:10:11: And you'll notice the language I use isn't of are
00:10:11 --> 00:10:13: we going to transition off of natural gas?
00:10:13 --> 00:10:15: But it's very much of we are going to.
00:10:15 --> 00:10:17: And how do we manage that?
00:10:17 --> 00:10:20: And so on the slide you see the headline of
00:10:21 --> 00:10:23: an op Ed that at the time,
00:10:23 --> 00:10:27: public utility Commissioner Liane Randolph wrote.
00:10:27 --> 00:10:29: I'm into the Cal Matters magazine,
00:10:29 --> 00:10:31: which talked about this proceeding.
00:10:31 --> 00:10:34: She was opening and the fact that we are transitioning
00:10:34 --> 00:10:36: off of gas and her proceeding was going to talk
00:10:36 --> 00:10:39: about how we manage that for power plants for industry
00:10:39 --> 00:10:42: and for buildings, and so that was a very clear
00:10:42 --> 00:10:46: message from state government that we're going to be starting
00:10:46 --> 00:10:49: a pretty rapid exit from natural gas.
00:10:49 --> 00:10:52: Right after that, the California Energy Commission,
00:10:52 --> 00:10:56: which adopts the energy Efficiency Code for California the governs
00:10:56 --> 00:10:59: all new buildings and alterations.
00:10:59 --> 00:11:03: Any end uses that affect energy consumption,
00:11:03 --> 00:11:04: they adopted their next building code.
00:11:04 --> 00:11:05: The building code is, I'm sure,
00:11:05 --> 00:11:08: most of you know is updated every three years,
00:11:08 --> 00:11:11: and the code that is going to go into effect
00:11:11 --> 00:11:15: in January of 2023 has some heavy regulatory incentives to
00:11:15 --> 00:11:17: be building all electric.
00:11:17 --> 00:11:20: They didn't go all the way to require all electric.
00:11:20 --> 00:11:22: For the code, but they send a clear message that
00:11:23 --> 00:11:25: in the 2023 code they're going to be wanting to
00:11:25 --> 00:11:28: push you towards electric and then the 2026 code.
00:11:28 --> 00:11:32: It looks like they'd be requiring all at your construction
00:11:32 --> 00:11:33: across California,
00:11:33 --> 00:11:35: and so you're starting to see now some of the
00:11:35 --> 00:11:38: actual development policies that govern our development.
00:11:38 --> 00:11:41: Start to push that and then just this year the
00:11:41 --> 00:11:45: California Air Resources Board has announced policies are

going to
00:11:45 --> 00:11:47: affect existing buildings.
00:11:47 --> 00:11:51: They're proposing adopting this summer in one of their Clean
00:11:51 --> 00:11:52: Air Act policies,
00:11:52 --> 00:11:56: a standard that would say after 20-30 you would no
00:11:56 --> 00:11:59: longer be allowed to buy a water heater or a
00:11:59 --> 00:12:02: space heater that uses natural gas to put into your
00:12:02 --> 00:12:05: building some. They're going to be going through a lot
00:12:05 --> 00:12:07: of rulemaking to get to this point.
00:12:07 --> 00:12:10: A lot of discussions about the appropriateness of different building
00:12:10 --> 00:12:11: types and the like,
00:12:11 --> 00:12:14: but ultimately you can see a pretty clear message from
00:12:14 --> 00:12:17: across state government that we are exiting natural gas,
00:12:17 --> 00:12:20: and there's going to be increasing policies that are pushing
00:12:20 --> 00:12:22: it so that we're no longer allowed to build or
00:12:22 --> 00:12:22: Rep.
00:12:22 --> 00:12:25: Profit with natural gas and uses in California is not
00:12:25 --> 00:12:26: alone in this.
00:12:26 --> 00:12:29: The state and the City of New York have gone
00:12:29 --> 00:12:32: ahead and are working on legislation or like the City
00:12:32 --> 00:12:35: of New York actually banned gas and new construction.
00:12:35 --> 00:12:39: New Jersey main cities all across Massachusetts,
00:12:39 --> 00:12:42: Seattle and now Denver have adopted similar policies,
00:12:42 --> 00:12:45: and so we're starting to see this wave of action.
00:12:45 --> 00:12:49: I'm happening at the state level and at local levels
00:12:49 --> 00:12:51: across the United States.
00:12:51 --> 00:12:52: And so you might now ask,
00:12:52 --> 00:12:55: so why this sudden surge?
00:12:55 --> 00:12:57: And why are we now seeing this action?
00:12:57 --> 00:13:00: Well, I'm going to talk about some of the drivers
00:13:00 --> 00:13:02: of that right now here in California.
00:13:02 --> 00:13:05: We've done a lot of work about reducing smog.
00:13:05 --> 00:13:08: We have five of the worst air air basins for
00:13:08 --> 00:13:09: air quality.
00:13:09 --> 00:13:11: I'm in the United States,
00:13:11 --> 00:13:13: the Bay Area being one of them on five of
00:13:13 --> 00:13:16: the top ten worst air basins for air quality,
00:13:16 --> 00:13:20: and so the Bay Area Air Quality Management District manages
00:13:20 --> 00:13:21: air quality.
00:13:21 --> 00:13:23: For the Bay Area, and if you look at the
00:13:23 --> 00:13:26: work that we've done around power plants and cars,

00:13:26 --> 00:13:29: we've done a lot of work over the last four

00:13:29 --> 00:13:32: decades to reduce smog causing pollutants from power plants in

00:13:32 --> 00:13:35: the power sector as well as from cars we have

00:13:35 --> 00:13:38: not done anything like that for buildings yet,

00:13:38 --> 00:13:40: and so the slide you see in front of you

00:13:40 --> 00:13:43: is a slide that's drawn from data from the California

00:13:43 --> 00:13:44: Air Resources port,

00:13:44 --> 00:13:48: and it looks at the emissions of nitrogen oxides on

00:13:48 --> 00:13:50: one of the leading precursors of smog,

00:13:50 --> 00:13:52: and it looks at the.

00:13:52 --> 00:13:55: Amount of nitrogen oxides that come out each day from

00:13:56 --> 00:13:59: the power plant sector as represented in dark blue from

00:14:00 --> 00:14:03: the single vehicle on the small car sector in green

00:14:03 --> 00:14:07: and then the building sector in large blue.

00:14:07 --> 00:14:09: And what this tells you is that right now the

00:14:09 --> 00:14:13: pollution coming from the smog causing pollution coming from buildings

00:14:13 --> 00:14:16: is about five times more than the smog that's coming

00:14:16 --> 00:14:19: from our entire fleet of power plants and twice as

00:14:19 --> 00:14:22: much as all of the cars that drive around California

00:14:22 --> 00:14:23: and so increasingly.

00:14:23 --> 00:14:27: Air quality regulators like back mud and like the Air

00:14:27 --> 00:14:31: Resources Board are moving forward with regulations to try to

00:14:31 --> 00:14:34: address smog coming from burning gas and buildings.

00:14:34 --> 00:14:37: If you look at many of the cities that probably

00:14:37 --> 00:14:39: the people on this call operate in the Bay Area

00:14:39 --> 00:14:41: cities and the Bay Area counties,

00:14:41 --> 00:14:43: I'm nearly all of them if not all of them

00:14:44 --> 00:14:47: have adopted strong climate change plans to reduce greenhouse gas

00:14:47 --> 00:14:49: emissions within their jurisdiction.

00:14:49 --> 00:14:52: And when you look at those opportunities,

00:14:52 --> 00:14:55: the local governments have to reduce greenhouse gas emissions.

00:14:55 --> 00:14:59: There aren't much land use changes take a long time

00:14:59 --> 00:15:01: to have much of an impact.

00:15:01 --> 00:15:04: You generally can't control the types of cars that are

00:15:04 --> 00:15:05: bought or sold,

00:15:05 --> 00:15:07: or. Or driving in or out of your city.

00:15:07 --> 00:15:09: A lot of times cities don't have a lot of

00:15:10 --> 00:15:13: regulation over the industry or the agriculture of any takes

00:15:13 --> 00:15:14: part in their area,

00:15:14 --> 00:15:17: and so buildings is one of the few areas where

00:15:17 --> 00:15:19: local governments can make a real effort.

00:15:19 --> 00:15:21: And what you see here is a bunch of pie

00:15:21 --> 00:15:24: charts of where greenhouse gas emissions are coming from in

00:15:24 --> 00:15:26: different cities across the Bay Area.

00:15:26 --> 00:15:30: And you can see the generally buildings make up the

00:15:30 --> 00:15:31: second largest.

00:15:31 --> 00:15:33: Contributor to greenhouse gas emissions for cities.

00:15:33 --> 00:15:36: And So what you can expect is that cities are

00:15:36 --> 00:15:38: going to be having an increasing focus on how to

00:15:38 --> 00:15:40: reduce greenhouse gas emissions from buildings.

00:15:40 --> 00:15:44: And as we have a rapidly greening electric electricity grid,

00:15:44 --> 00:15:46: as we add more and more renewables in more and

00:15:46 --> 00:15:47: more newer gas plants,

00:15:47 --> 00:15:50: what you're going to see is more and more that

00:15:50 --> 00:15:53: the gas consumption in buildings is one of the few

00:15:53 --> 00:15:54: areas to focus on.

00:15:54 --> 00:15:57: Is there, like electricity, gets cleaner?

00:15:57 --> 00:15:59: The other big awareness that we're starting to have is

00:15:59 --> 00:16:01: around the indoor air quality impacts,

00:16:01 --> 00:16:03: not just outdoor air quality impacts,

00:16:03 --> 00:16:07: but also the indoor air quality impacts of burning natural

00:16:07 --> 00:16:07: gas,

00:16:07 --> 00:16:11: and this is generally around cooking and cook stoves.

00:16:11 --> 00:16:14: Many of you if you work in the commercial sector,

00:16:14 --> 00:16:18: you have excellent ventilation systems over commercial kitchens that get

00:16:18 --> 00:16:20: rid of a lot of the nitrogen oxides.

00:16:20 --> 00:16:23: The carbon monoxide and the formaldehyde that come when you

00:16:23 --> 00:16:24: burn gas.

00:16:24 --> 00:16:27: I mean, your stoves, but many multifamily buildings.

00:16:27 --> 00:16:31: Do not have either adequate or any ventilation at all.

00:16:31 --> 00:16:33: Depending on the era in which they were built,

00:16:33 --> 00:16:36: and so there's an increasing body of evidence that shows

00:16:36 --> 00:16:40: that we're having millions of Californians exposed to what would

00:16:40 --> 00:16:43: be considered illegal levels of pollutants.

00:16:43 --> 00:16:45: If these levels were found outdoor and regulated by the

00:16:46 --> 00:16:46: Clean Air Act.

00:16:46 --> 00:16:48: But because they're found in people's kitchen,

00:16:48 --> 00:16:50: they're being exposed to illegal levels,
00:16:50 --> 00:16:53: and there's nothing that we can do about the slide
00:16:54 --> 00:16:56: that you see in front of you is from a
00:16:56 --> 00:16:57: major study in 2014 by.
00:16:57 --> 00:17:01: Doctor Brett Singer at the Lawrence Berkeley National Laboratories,
00:17:01 --> 00:17:04: where they looked at 60,000 homes in Southern California,
00:17:04 --> 00:17:07: and from that they said every winter,
00:17:07 --> 00:17:11: about 12 million Californians are being exposed to these dangerous
00:17:11 --> 00:17:14: and illegal levels of pollutants from nitrogen oxides,
00:17:14 --> 00:17:17: carbon monoxide, and formaldehyde from burning gas,
00:17:17 --> 00:17:20: and it's critically important that we have quality ventilation.
00:17:20 --> 00:17:22: If you're going to have a gas stove,
00:17:22 --> 00:17:25: or you should be transitioning away from a gas stove.
00:17:25 --> 00:17:29: Just last year there was a meta study released from
00:17:29 --> 00:17:33: Physicians for Social Responsibility and the consulting firm RMI that
00:17:33 --> 00:17:38: brought together 250 different studies about the impact of children
00:17:38 --> 00:17:40: living in homes with gas stoves.
00:17:40 --> 00:17:45: Finding a significantly increased chance of asthma risk for children
00:17:45 --> 00:17:48: that grew up in homes with gas stoves and then
00:17:49 --> 00:17:53: just six months ago a research institution in Australia connected
00:17:53 --> 00:17:56: to a university released a study.
00:17:56 --> 00:17:59: That compared the impact of a child growing up in
00:17:59 --> 00:18:02: a home with a cigarette smoker to the impact of
00:18:02 --> 00:18:04: growing up in a home with a gas stove and
00:18:04 --> 00:18:09: finding there's finding there's a comparable impact on the children's
00:18:09 --> 00:18:12: lung health in either one of those households.
00:18:12 --> 00:18:15: And the other thing, the last thing I'll end with
00:18:15 --> 00:18:18: hear about some of the reasons to electrify is this.
00:18:18 --> 00:18:22: The events of the last week are bringing the conversation
00:18:22 --> 00:18:26: around energy independence and the dependence on fossil fuel and
00:18:26 --> 00:18:30: the global nature of natural gas supplies to the forefront.
00:18:30 --> 00:18:34: And that's a very serious issue for California because we
00:18:34 --> 00:18:36: don't control a lot of the sources of the natural
00:18:36 --> 00:18:37: gas that we use,
00:18:37 --> 00:18:40: we import about 85% of the natural gas that we
00:18:40 --> 00:18:42: use for power generation,

00:18:42 --> 00:18:46: buildings and industry. Here in California and we face increased

00:18:46 --> 00:18:50: competition as we see burgeoning populations along these pipelines that

00:18:50 --> 00:18:53: you see on the on the map on the slide.

00:18:53 --> 00:18:55: But now what we're going to start to be seeing

00:18:55 --> 00:18:58: because of the events in the Ukraine and Russia is

00:18:58 --> 00:19:01: a global price increase for natural gas and the reality

00:19:01 --> 00:19:04: is we don't have control over the price of gas

00:19:04 --> 00:19:06: here in California.

00:19:06 --> 00:19:10: It's a pass through cost for our utilities here electricity

00:19:10 --> 00:19:12: we have a lot of control over that,

00:19:12 --> 00:19:14: and so we're able to manage the increase.

00:19:14 --> 00:19:18: Price of electricity overtime unlike natural gas and so increasingly

00:19:18 --> 00:19:22: this is going to be an economic resiliency question about

00:19:22 --> 00:19:25: getting on to energy sources that we have better control

00:19:25 --> 00:19:29: over. And so the solution really is to be moving

00:19:29 --> 00:19:33: over to clean electricity to be providing are the energy

00:19:33 --> 00:19:35: for all these heat sources.

00:19:35 --> 00:19:38: This is a map that shows all the states that

00:19:38 --> 00:19:42: have committed to an increasing amount of renewable energy on

00:19:42 --> 00:19:45: their electricity grid to provide it to buildings and homes,

00:19:45 --> 00:19:48: and so the solution is either use that cleaner grid

00:19:49 --> 00:19:52: energy or on site energy mixed with really high efficiency

00:19:52 --> 00:19:55: technologies to be able to bring about as good or

00:19:55 --> 00:20:00: better of a lifestyle. Through clean energy and highly efficient

00:20:00 --> 00:20:00: technologies,

00:20:00 --> 00:20:04: and these are incredibly efficient technologies when we're talking about

00:20:04 --> 00:20:06: heat pumps and induction stoves,

00:20:06 --> 00:20:08: I'm not going to go in depth because the next

00:20:08 --> 00:20:11: webinar that Michelle talked about is going to go in

00:20:11 --> 00:20:12: depth on the how.

00:20:12 --> 00:20:13: We're here to talk about the why,

00:20:13 --> 00:20:16: but one of the major reasons why is that heat

00:20:16 --> 00:20:20: pump technology is incredibly efficient three to four times more

00:20:20 --> 00:20:24: efficient than your best in class gas appliance about taking

00:20:24 --> 00:20:27: energy coming into the appliance and then producing.

00:20:27 --> 00:20:30: Heat coming out. It's almost like magic technology,

00:20:30 --> 00:20:31: basically with a heat pump.

00:20:31 --> 00:20:34: What you're doing is you're using electricity to run a
00:20:34 --> 00:20:34: condenser,
00:20:34 --> 00:20:38: like your refrigerator does, and a fan to move that
00:20:38 --> 00:20:39: energy around,
00:20:39 --> 00:20:42: and you're converting energy from outside to inside of a
00:20:42 --> 00:20:43: space,
00:20:43 --> 00:20:47: just like a refrigerator. And that makes an incredibly efficient
00:20:47 --> 00:20:50: way to produce heat or to cool down a building.
00:20:50 --> 00:20:54: It is so efficient that regardless of the energy sources
00:20:54 --> 00:20:56: that go into a grid,
00:20:56 --> 00:20:59: coal, natural gas, hydropower, renewables,
00:20:59 --> 00:21:03: nuclear, whatever it is because these efficient.
00:21:03 --> 00:21:06: These appliances are so efficient that no matter the grid
00:21:06 --> 00:21:07: mix,
00:21:07 --> 00:21:10: there's a greenhouse gas benefit of converting from gas for
00:21:10 --> 00:21:13: water heating and space heating over to heat pumps and
00:21:13 --> 00:21:16: the slide you see up there is a map that
00:21:16 --> 00:21:19: came out of the Rocky Mountain Institute in Sierra Club.
00:21:19 --> 00:21:21: They did a study two years ago and they looked
00:21:21 --> 00:21:21: at.
00:21:21 --> 00:21:24: Every grid mix across the United States even really dirty
00:21:24 --> 00:21:26: grids like West Virginia.
00:21:26 --> 00:21:29: That's heavily coal, and what they found is because these
00:21:29 --> 00:21:33: appliances are so efficient it actually is a greenhouse gas
00:21:33 --> 00:21:36: benefit from switching from natural gas even onto dirty grids.
00:21:36 --> 00:21:40: With this, these electric appliances because of their efficiency
and
00:21:40 --> 00:21:44: in places like California and the Northwest because of our
00:21:44 --> 00:21:44: cleaner grids,
00:21:44 --> 00:21:48: there's a significant greenhouse gas benefit as much as a
00:21:48 --> 00:21:48: 50%
00:21:48 --> 00:21:52: reduction in greenhouse gas emissions from those heating
end uses.
00:21:52 --> 00:21:53: And so you might say,
00:21:53 --> 00:21:56: well, is this a lot more expensive and the good
00:21:56 --> 00:22:00: news is that the California Building Industry Association.
00:22:00 --> 00:22:03: Back in 2018, did a major study of the cost
00:22:03 --> 00:22:06: of electric appliances in California when they found was that
00:22:06 --> 00:22:10: electric appliances have a similar or lower cost than natural
00:22:10 --> 00:22:14: gas appliances. Now nobody should ever talk about how
much
00:22:14 --> 00:22:17: a building costs or speculated by building costs.
00:22:17 --> 00:22:20: Every building is different. Every occupancy is different,

00:22:20 --> 00:22:22: so all you can do is make some assumptions.

00:22:22 --> 00:22:25: But this is a great study to see from the

00:22:25 --> 00:22:29: building industry association about the cost of electric appliances.

00:22:29 --> 00:22:32: I'm going to end here and just with this slide

00:22:32 --> 00:22:35: is some of the most significant research that's been done

00:22:36 --> 00:22:39: about the cost of actually operating buildings that are all

00:22:39 --> 00:22:42: electric, and it was done through a study with smud,

00:22:42 --> 00:22:46: PG and E and Southern California Edison combined to look

00:22:46 --> 00:22:49: at the cost of operating new and existing all electric

00:22:49 --> 00:22:53: buildings that had either been renovated or had been built

00:22:53 --> 00:22:56: all at chicken. What they found was a very clear

00:22:57 --> 00:22:59: not only greenhouse gas benefit,

00:22:59 --> 00:23:00: but also clear cost benefit.

00:23:00 --> 00:23:03: From building and operating all electric.

00:23:03 --> 00:23:04: So thank you so much for the time.

00:23:04 --> 00:23:06: I look forward to engage with you further.

00:23:06 --> 00:23:07: I look forward to the rest of the conversation.

00:23:09 --> 00:23:11: Wonderful thank you Panama. Ellena,

00:23:11 --> 00:23:14: I'd like to invite you to please tell us about

00:23:14 --> 00:23:16: San Jose's existing building electrification plan.

00:23:17 --> 00:23:19: Thank you, thanks for the opportunity.

00:23:19 --> 00:23:21: I'm just gonna take a moment to share my slides

00:23:21 --> 00:23:22: 'cause I have a couple of.

00:23:38 --> 00:23:44: OK so San Jose is developing an existing building electrification

00:23:44 --> 00:23:44: plan.

00:23:44 --> 00:23:48: We are planning to bring this to Council in May

00:23:48 --> 00:23:51: of this year and we're really excited to bring this

00:23:51 --> 00:23:55: as a a policy and program solution to reduce our

00:23:55 --> 00:23:59: greenhouse gas emissions. We know that greenhouse gas emissions make

00:23:59 --> 00:23:59: up 34%.

00:23:59 --> 00:24:02: Or I'm sorry buildings make up 34%

00:24:02 --> 00:24:06: of San Jose's greenhouse gas emissions and we see building

00:24:06 --> 00:24:10: electrification as a necessary solution in order to reduce our

00:24:10 --> 00:24:12: greenhouse gas emissions.

00:24:12 --> 00:24:14: We do have I? I did want to mention that

00:24:14 --> 00:24:17: we do have a draft available of the existing building

00:24:17 --> 00:24:19: electrification plan on our web page,

00:24:19 --> 00:24:21: and we'll share a link to that draft.

00:24:21 --> 00:24:25: We're taking public comment until March 11th.

00:24:25 --> 00:24:29: So the building electrification plan is a framework for how
00:24:29 --> 00:24:34: we can equitably decarbonize or existing buildings or homes and
00:24:34 --> 00:24:36: our businesses in San Jose,
00:24:36 --> 00:24:39: and how we are planning to do that is,
00:24:39 --> 00:24:43: the plan includes a set of policy and program recommendations
00:24:43 --> 00:24:47: on how we can accelerate and incentivize building electrification in
00:24:47 --> 00:24:48: San Jose,
00:24:48 --> 00:24:51: the the, the policies, and the in the plan are
00:24:51 --> 00:24:52: supportive,
00:24:52 --> 00:24:55: meaning that they are intended to encourage and.
00:24:55 --> 00:24:57: And strongly incentivize building electrification.
00:24:57 --> 00:25:01: We are not requiring any building electrification.
00:25:01 --> 00:25:05: We don't have mandates in the plan at this point.
00:25:05 --> 00:25:08: I did also want to mention that we that City
00:25:08 --> 00:25:12: Council recently passed a carbon neutrality by 2030 goal last
00:25:12 --> 00:25:16: November and that means that we will need to significantly
00:25:16 --> 00:25:20: substantially reduce greenhouse gas emissions from every sector,
00:25:20 --> 00:25:23: especially our building stock. So we will be developing a
00:25:23 --> 00:25:27: plan for to reach carbon neutrality and building electrification will
00:25:27 --> 00:25:30: be one of the key strategies in that plan.
00:25:36 --> 00:25:38: I also just wanted to talk a little bit about
00:25:38 --> 00:25:42: our stakeholder engagement process because we had a pretty extensive
00:25:42 --> 00:25:45: engagement process and we because the plan is focused on
00:25:45 --> 00:25:49: on equity. We started with working with community based organizations
00:25:50 --> 00:25:54: that work with historically marginalized communities and low income populations
00:25:54 --> 00:25:55: in San Jose.
00:25:55 --> 00:25:59: So we started with this Co creation process and we
00:25:59 --> 00:26:01: we worked with two CEOs.
00:26:01 --> 00:26:03: I can and veggie, Lucian,
00:26:03 --> 00:26:07: those community based organizations work very closely with the Vietnamese
00:26:07 --> 00:26:07: community.
00:26:07 --> 00:26:10: Beyond speed Latin X community in East side San Jose,
00:26:10 --> 00:26:13: we also brought on a technical partner building.
00:26:13 --> 00:26:18: Electrification Institute is a technical policy adviser on building electrification

00:26:18 --> 00:26:21: and then we also had staff from different departments working

00:26:21 --> 00:26:24: on this Co creation team and the purpose of the

00:26:24 --> 00:26:27: the Co creation team was really to understand what the

00:26:27 --> 00:26:28: Community's needs are,

00:26:29 --> 00:26:30: what the Community's priorities are,

00:26:30 --> 00:26:33: and how they relate to building electrification,

00:26:33 --> 00:26:36: and how we could use building electrification in order to

00:26:36 --> 00:26:37: address and advance the communities.

00:26:37 --> 00:26:41: Priorities, so we came up with four key focus areas

00:26:41 --> 00:26:43: for the building electrification plan.

00:26:43 --> 00:26:47: I'll talk about those in the next slide.

00:26:47 --> 00:26:51: After the creation process, we engaged more than 40 different

00:26:51 --> 00:26:54: stakeholders on these one on one meetings to take a

00:26:54 --> 00:26:58: deeper dive into the concerns around building electrification as well

00:26:58 --> 00:27:03: as the opportunities and opportunities for collaboration with different groups.

00:27:03 --> 00:27:05: So we talked with labor organizations,

00:27:05 --> 00:27:08: workforce development, groups with housing groups,

00:27:08 --> 00:27:10: including property owners, affordable housing,

00:27:10 --> 00:27:15: property owners, and. Naturally occurring affordable housing property owners as

00:27:15 --> 00:27:17: well as tenant advocacy groups.

00:27:17 --> 00:27:19: And then we met with with a bunch of different

00:27:19 --> 00:27:23: community based organizations to really vet the priorities and understand

00:27:23 --> 00:27:26: more how they relate to building electrification opportunities.

00:27:26 --> 00:27:30: We then did some more broader community engagement through public

00:27:30 --> 00:27:31: information sessions.

00:27:31 --> 00:27:35: We are also currently doing public engagement now.

00:27:35 --> 00:27:37: Have our public comment period is open for the review

00:27:37 --> 00:27:39: of the building electrification plan.

00:27:39 --> 00:27:43: And then we we have worked with many different departments

00:27:43 --> 00:27:46: across San Jose to inform the development of our policies

00:27:46 --> 00:27:48: and program recommendations.

00:27:52 --> 00:27:55: So there's four key focus areas in our building electrification

00:27:55 --> 00:27:56: plan.

00:27:56 --> 00:27:59: Each of the program and policy recommendations fall under one

00:27:59 --> 00:28:00: of these four categories,

00:28:00 --> 00:28:02: so the first is housing and energy costs,
00:28:02 --> 00:28:05: and we're really looking at how can we reduce operational
00:28:06 --> 00:28:09: costs or people's utility bills through building electrification?
00:28:09 --> 00:28:13: We're really looking at building electrification as a long term
00:28:13 --> 00:28:17: investment that will make housing more affordable.
00:28:17 --> 00:28:19: The second focus area is health and air quality.
00:28:19 --> 00:28:23: We are looking to increase awareness about the importance of
00:28:23 --> 00:28:26: having having good air quality in your home and especially
00:28:26 --> 00:28:29: as we're seeing more and more studies come out showing
00:28:29 --> 00:28:33: the relationship between using gas in the home and the
00:28:33 --> 00:28:36: potential impact on people's respiratory health.
00:28:36 --> 00:28:39: We want to really raise awareness about this issue,
00:28:39 --> 00:28:43: especially in historically marginalized communities.
00:28:43 --> 00:28:46: The third focus area is high quality job opportunities.
00:28:46 --> 00:28:49: There's really a tremendous opportunity to bring good quality jobs
00:28:49 --> 00:28:52: into San Jose through building electrification,
00:28:52 --> 00:28:55: the Rocky Mountain Institute produced a report on jobs and
00:28:55 --> 00:28:58: the potential for job increases as a result of building
00:28:58 --> 00:28:59: electrification.
00:28:59 --> 00:29:04: And they estimated in that report that building electrification can
00:29:04 --> 00:29:07: bring about 100,000 new jobs to California.
00:29:07 --> 00:29:09: So in in different in various sectors,
00:29:09 --> 00:29:10: and so we want to,
00:29:10 --> 00:29:12: we are looking at different opportunities.
00:29:12 --> 00:29:15: Or how to bring good quality jobs into San Jose
00:29:15 --> 00:29:19: that will support people to continue living in San Jose.
00:29:19 --> 00:29:22: And then lastly, we also have clean and reliable energy
00:29:22 --> 00:29:24: as a focus area and we're working with San Jose.
00:29:24 --> 00:29:28: Clean energy. We're really looking at how we can increase
00:29:28 --> 00:29:32: energy reliability by pairing building electrification with renewable energy like
00:29:32 --> 00:29:34: solar PV and battery storage,
00:29:34 --> 00:29:37: as well as increased community resilience solutions.
00:29:40 --> 00:29:43: That's just a little bit of background on the building
00:29:44 --> 00:29:45: electrification plan,
00:29:45 --> 00:29:47: and I encourage you to check it out on our
00:29:47 --> 00:29:48: building electrification webpage.
00:29:50 --> 00:29:52: Great, thanks Celina. It so now we're going to bring
00:29:52 --> 00:29:54: Tom and Kelvin into the discussion as well,
00:29:54 --> 00:29:55: and kind of hear a bit about some of the

00:29:56 --> 00:29:57: work that they've been doing.
00:29:57 --> 00:29:58: I'm going to start with Kelvin.
00:29:58 --> 00:30:00: Can you give us kind of an overview of your
00:30:00 --> 00:30:03: buildings and some of the work you've done on electrification?
00:30:04 --> 00:30:06: Yes, absolutely yeah. So uhm.
00:30:06 --> 00:30:14: So we operate as small multifamily buildings ranging from 4
00:30:14 --> 00:30:16: units to 9 units.
00:30:16 --> 00:30:21: I currently operate at 37 units.
00:30:21 --> 00:30:24: And you know my when I started,
00:30:24 --> 00:30:30: my approach has been. Pretty much focusing on the cosmetic,
00:30:30 --> 00:30:33: you know, remodeling the the units,
00:30:33 --> 00:30:37: the flooring paint, the wall and and so on and
00:30:37 --> 00:30:38: so forth.
00:30:38 --> 00:30:41: Not really paying a lot of attention to the infrastructure
00:30:41 --> 00:30:43: because the thinking is that you know the tenant is
00:30:43 --> 00:30:46: not going to care whether it's gas or electric,
00:30:46 --> 00:30:51: right? So why bother? But you know.
00:30:51 --> 00:30:53: Things start to kind of like,
00:30:53 --> 00:30:55: you know, simmer in the background.
00:30:55 --> 00:30:59: You know I get a phone calls that you know
00:30:59 --> 00:31:03: there's gas leak from the stove or from the wall
00:31:03 --> 00:31:04: heater.
00:31:04 --> 00:31:05: You know the electric panel,
00:31:05 --> 00:31:09: they smell burnt smell and so on,
00:31:09 --> 00:31:12: so. You know I I kind of realized that I
00:31:12 --> 00:31:15: need to take care of the infrastructure,
00:31:15 --> 00:31:19: right? But of course, cost is a very big concern,
00:31:19 --> 00:31:24: right? I mean it it it's very expensive to retrofit.
00:31:24 --> 00:31:29: All buildings with with new infrastructure and you know initially
00:31:29 --> 00:31:32: I was thinking pretty much reactive approach.
00:31:32 --> 00:31:36: Like whenever I get a phone call I just call
00:31:36 --> 00:31:39: a plumber to fix the the gas appliances I call
00:31:39 --> 00:31:43: electrician to to swap out the the the Planner.
00:31:43 --> 00:31:48: The only thing that made sense to me financially which
00:31:48 --> 00:31:52: I self financed entirely myself was.
00:31:52 --> 00:31:57: You know installing solar panels and in one of my
00:31:57 --> 00:32:00: building because it's master meter.
00:32:00 --> 00:32:04: And it's a 9 unit building,
00:32:04 --> 00:32:07: so as you can imagine.
00:32:07 --> 00:32:11: I almost always run into like high usage fee,

00:32:11 --> 00:32:15: which is like significantly higher than the the the the
00:32:15 --> 00:32:16: the based here right?
00:32:16 --> 00:32:19: So you know putting in the I did the math
00:32:19 --> 00:32:22: and putting in the solar panel made a lot of
00:32:22 --> 00:32:23: sense.
00:32:23 --> 00:32:26: You know the payback is like within two years if
00:32:27 --> 00:32:29: you take into account the.
00:32:29 --> 00:32:32: Tax saving that I get from IRS?
00:32:32 --> 00:32:34: The other stuff, like you know,
00:32:34 --> 00:32:36: the appliances and so on.
00:32:36 --> 00:32:39: You know, I, I know that I need to change
00:32:39 --> 00:32:39: it,
00:32:39 --> 00:32:44: but I I just didn't really think about it until
00:32:44 --> 00:32:48: I started to find out more about the incentives.
00:32:48 --> 00:32:53: You know, the the tree organization that or or program
00:32:53 --> 00:32:55: that I tap money from.
00:32:55 --> 00:33:04: Rebates from beiran tech and Electrifies and San Jose.
00:33:04 --> 00:33:07: You know those rebates were pretty substantial.
00:33:07 --> 00:33:11: You know, in some instances it could like pay for
00:33:11 --> 00:33:12: like half.
00:33:12 --> 00:33:18: The cost of upgrading the infrastructure so.
00:33:18 --> 00:33:22: They made a lot of sense to me and right
00:33:22 --> 00:33:23: now I am proactively.
00:33:23 --> 00:33:31: Trying to convert my buildings to all electric.
00:33:31 --> 00:33:33: Just because there's so many benefits,
00:33:34 --> 00:33:37: right? Yeah, you know costs being one of the main
00:33:37 --> 00:33:38: main one for,
00:33:38 --> 00:33:43: you know small business operator like me who is on
00:33:43 --> 00:33:45: a SU string budget,
00:33:45 --> 00:33:47: but health and safety for sure.
00:33:47 --> 00:33:51: You know there's always a nagging thought in my mind
00:33:51 --> 00:33:54: that you know something bad is going to happen,
00:33:54 --> 00:33:58: like the building may burn down and so on because
00:33:58 --> 00:33:59: of the gas leak so.
00:33:59 --> 00:34:04: Proactively doing this, give me the Peace of Mind.
00:34:04 --> 00:34:09: Tenant quality of life is also another key consideration because
00:34:09 --> 00:34:09: you know,
00:34:09 --> 00:34:14: I realized that you know after I swap out the
00:34:14 --> 00:34:18: guests the gas heater with heat pump space heater,
00:34:18 --> 00:34:21: which also does condition air.
00:34:21 --> 00:34:22: Tenants are very very happy,

00:34:22 --> 00:34:26: right? Like they you know they express a lot of
00:34:26 --> 00:34:29: like goodwill and happiness towards me.
00:34:29 --> 00:34:33: So you know, I gotta.
00:34:33 --> 00:34:36: A lot of benefit I I wrote on a big
00:34:36 --> 00:34:36: list,
00:34:36 --> 00:34:41: but those are the the three main main benefits that
00:34:41 --> 00:34:43: I got out of this and.
00:34:43 --> 00:34:47: Yeah, I would. You know from my perspective I I
00:34:47 --> 00:34:52: would encourage you know small business or small multifamily operator
00:34:52 --> 00:34:54: to embark on this.
00:34:54 --> 00:34:56: I mean I think it's you see a lot of
00:34:56 --> 00:35:00: benefit if you take advantage of the rebates that are
00:35:00 --> 00:35:01: available right now.
00:35:01 --> 00:35:04: And I am hoping that I will see more rebate
00:35:04 --> 00:35:08: given the you know initiative that are going on right
00:35:08 --> 00:35:10: now to legislate this right?
00:35:10 --> 00:35:11: So
00:35:12 --> 00:35:13: great thank you Calvin, and we're definitely worth.
00:35:13 --> 00:35:15: We're going to dive in a little bit more into
00:35:15 --> 00:35:16: some of your projects right now,
00:35:16 --> 00:35:19: like to pivot over to Tom to tell us about.
00:35:19 --> 00:35:22: I know you've got a building in East Palo Alto.
00:35:22 --> 00:35:23: Can you tell us a bit about that?
00:35:24 --> 00:35:26: Yeah, that's the light tree community.
00:35:26 --> 00:35:30: It started off as 91 units in an older set
00:35:30 --> 00:35:35: of mid rise buildings and we decided to electrify that
00:35:35 --> 00:35:42: community primarily for the same reasons that Calvin and Panama
00:35:42 --> 00:35:48: had mentioned, which was. Tenant safety and concerns about carbon
00:35:48 --> 00:35:49: monoxide.
00:35:49 --> 00:35:53: And also many of the buildings that we have acquired
00:35:53 --> 00:35:56: over the years did not have active cooling.
00:35:56 --> 00:36:00: We had, you know, either wolf gas wall furnaces or
00:36:00 --> 00:36:02: electric resistance heating,
00:36:02 --> 00:36:06: but with the climate change occurring in the higher summer
00:36:06 --> 00:36:11: temperatures where we actually having extreme heat health events.
00:36:11 --> 00:36:14: It's an equity issue. To be able to bring in
00:36:14 --> 00:36:17: heat pumps that can both heat and cool and provide
00:36:17 --> 00:36:21: that that that comfort and safety in times when we're
00:36:21 --> 00:36:24: having extreme heat. The other.

00:36:27 --> 00:36:31: In that particular property in East Palo Alto,

00:36:31 --> 00:36:36: which is you know, for extremely low income people,

00:36:36 --> 00:36:38: you know 30 to 60%

00:36:38 --> 00:36:44: of average median income. Formerly homeless formerly foster youth.

00:36:44 --> 00:36:49: People with developmental disabilities. We did intensify the density of

00:36:50 --> 00:36:54: the property by demolishing almost 40 of the units.

00:36:54 --> 00:36:55: About half of the units,

00:36:55 --> 00:36:58: and build up. Taller new construction building.

00:36:58 --> 00:37:01: So we're we're diving in both in terms of new

00:37:01 --> 00:37:03: construction electrification,

00:37:03 --> 00:37:06: it's our first all electric project that we're developing.

00:37:06 --> 00:37:09: But then the other. 40 or so units that were

00:37:09 --> 00:37:13: not demolished to make ready to make ready for the

00:37:13 --> 00:37:14: high rise.

00:37:14 --> 00:37:15: We are capping the gas.

00:37:15 --> 00:37:19: All of those units. And the other point that Calvin

00:37:19 --> 00:37:23: may Calvin mentioned that I will actually for this particular

00:37:23 --> 00:37:24: property,

00:37:24 --> 00:37:29: but also we're working on three other smaller properties in

00:37:29 --> 00:37:33: the southern part of the county in Gilroy is the

00:37:33 --> 00:37:38: significant amount of funding that's coming online now with the

00:37:38 --> 00:37:42: same programs that Calvin mentioned,

00:37:42 --> 00:37:46: they ran the tech program which had just recently launched,

00:37:46 --> 00:37:50: and that includes covering the cost of the electrical service.

00:37:50 --> 00:37:54: Upgrades which we we probably in that particular those three

00:37:54 --> 00:37:59: farmworker communities we would not have initiated the electrification,

00:37:59 --> 00:38:01: if there was not that level of incentive which we

00:38:01 --> 00:38:03: are also able to layer on with the low income

00:38:04 --> 00:38:05: weatherization program,

00:38:05 --> 00:38:06: which is a federally funded program.

00:38:06 --> 00:38:08: So it's a different part of money,

00:38:08 --> 00:38:13: but they do cover electrification.

00:38:13 --> 00:38:19: So it's. Similar reasons in terms of why we move

00:38:19 --> 00:38:24: to electrify these buildings and you know,

00:38:24 --> 00:38:27: just trying to make sure it's feasible for us to

00:38:27 --> 00:38:31: do these different kinds of communities and electrify them.

00:38:31 --> 00:38:34: Most of our communities in the San Jose area are

00:38:35 --> 00:38:35: much larger,

00:38:35 --> 00:38:40: 20 to 200 apartments, so it's a challenge and they

00:38:40 --> 00:38:45: have a mix of central water heating as well as.
00:38:45 --> 00:38:48: Some of the communities, each unit has its own in
00:38:48 --> 00:38:49: unit water heater,
00:38:49 --> 00:38:52: so we're we're definitely on the upward slope of the
00:38:52 --> 00:38:53: learning curve,
00:38:53 --> 00:38:56: but it's been helpful to dive in and to make
00:38:56 --> 00:38:59: sure that we're going to be ready for these changes
00:38:59 --> 00:39:00: so that Panama mentioned.
00:39:02 --> 00:39:04: And thanks, Tom. I want to kind of dive a
00:39:04 --> 00:39:07: little bit more into this notion around kind of incentives.
00:39:07 --> 00:39:10: Ipanima, I believe I read in the news a few
00:39:10 --> 00:39:13: weeks ago that in the California State budget,
00:39:13 --> 00:39:19: there's some 809 hundred million for building decarbonization electrification.
00:39:19 --> 00:39:21: Am I remembering that correctly?
00:39:22 --> 00:39:24: You are Michelle, and so both Calvin and Tommy have
00:39:25 --> 00:39:27: talked about the programs that are already out on the
00:39:27 --> 00:39:30: street and so statewide we have better half a billion
00:39:30 --> 00:39:32: dollars of incentives available right now.
00:39:32 --> 00:39:35: A lot of it's focused on residential and so you
00:39:35 --> 00:39:38: know your multi family and single family and then the
00:39:38 --> 00:39:41: governor has proposed an additional billion dollars.
00:39:41 --> 00:39:47: Go towards building electrification, particularly heat pumps for water heating
00:39:47 --> 00:39:48: and space heating,
00:39:48 --> 00:39:52: and then for cooking. And there's advocates that are trying
00:39:52 --> 00:39:54: to push it up to $2 billion and so.
00:39:54 --> 00:39:56: What we I think we want to see is we
00:39:56 --> 00:39:58: want to see a significant investment for the state if
00:39:58 --> 00:39:59: the state,
00:39:59 --> 00:40:02: as Calvin said, is going to be putting on these
00:40:02 --> 00:40:04: regulations towards the end of the decade.
00:40:04 --> 00:40:07: How are we incentivizing a lot of people before we
00:40:07 --> 00:40:09: reach that regulatory phase and we're starting to see that
00:40:10 --> 00:40:11: from government agencies right now,
00:40:11 --> 00:40:13: and the leadership of folks like the City of San
00:40:13 --> 00:40:15: Jose have been investing in this for for years is
00:40:16 --> 00:40:18: what's going to need is a partnership between state and
00:40:18 --> 00:40:21: locals to help invest at the local level to get
00:40:21 --> 00:40:21: people ready.
00:40:22 --> 00:40:24: Michelle, I wanted to also add that.
00:40:24 --> 00:40:29: The state recently funded the solar on multifamily affordable housing

00:40:29 --> 00:40:29: program,
00:40:29 --> 00:40:32: which is a billion dollars over 10 years,
00:40:32 --> 00:40:37: and that's specifically targeted to offset the resident cost of
00:40:37 --> 00:40:40: electricity for their units.
00:40:40 --> 00:40:42: So if we're going to be retrofitting their units and
00:40:42 --> 00:40:45: electrifying those end uses at the same time for many
00:40:45 --> 00:40:48: of the projects we're talking about and the ones I
00:40:48 --> 00:40:52: mentioned earlier, we're using Soma dollars going with power purchase
00:40:52 --> 00:40:54: agreements where there's very little.
00:40:54 --> 00:40:58: Positive front and we're going to be offsetting the residents
00:40:58 --> 00:41:02: bills so that they won't feel the impact of electrification,
00:41:02 --> 00:41:07: and they should actually be paying less than they are
00:41:07 --> 00:41:08: now.
00:41:08 --> 00:41:09: Terms of their total energy bill as well As for
00:41:10 --> 00:41:10: the common area owner.
00:41:10 --> 00:41:11: Paid meters.
00:41:13 --> 00:41:14: And so Soma, if for those of you who aren't
00:41:14 --> 00:41:15: familiar,
00:41:15 --> 00:41:19: is another program, that's a that's available that has some
00:41:19 --> 00:41:22: funding for multifamily projects.
00:41:22 --> 00:41:24: We might need to start like a list of acronyms
00:41:24 --> 00:41:25: for some of these.
00:41:25 --> 00:41:28: Some of these projects coming up just on the notion
00:41:28 --> 00:41:30: though of operating costs.
00:41:30 --> 00:41:32: I mean, it's great that they're going to be subsidizing
00:41:32 --> 00:41:32: some of these costs,
00:41:32 --> 00:41:36: but as Panama mentioned, it seems like there's a lot
00:41:36 --> 00:41:40: of unknown variables related to related to gas and Elena.
00:41:40 --> 00:41:42: You might want to chime in on this as well.
00:41:42 --> 00:41:43: Kind of one of the things.
00:41:43 --> 00:41:47: The big equity considerations in electrification is wanting to make
00:41:47 --> 00:41:50: sure that all buildings get electrified equally,
00:41:50 --> 00:41:53: so that we don't have just a few buildings left
00:41:53 --> 00:41:56: on the grid that are powered by gas holding on
00:41:56 --> 00:41:57: to some of those big,
00:41:57 --> 00:41:59: you know they're the ones left pane for gas,
00:41:59 --> 00:42:00: and everybody else has gone electric.
00:42:00 --> 00:42:03: How is the city work that into their thinking and
00:42:03 --> 00:42:04: their plan?
00:42:04 --> 00:42:06: Yeah, so. Equity is a a big big

00:42:06 --> 00:42:09: part of our building electrification plan,
00:42:09 --> 00:42:12: and the way that we're thinking about it is really
00:42:12 --> 00:42:13: prioritizing.
00:42:13 --> 00:42:17: Retrofits for properties that serve low income,
00:42:17 --> 00:42:21: low income tenants. Retrofitting electrification for affordable,
00:42:21 --> 00:42:25: affordable housing stock, as well as our naturally occurring affordable
00:42:25 --> 00:42:28: housing stock in San Jose and so when we're thinking
00:42:28 --> 00:42:31: about all of these different funding opportunities that we could
00:42:31 --> 00:42:33: go after and financing options,
00:42:33 --> 00:42:37: we're really looking to prioritize our low income residents in
00:42:37 --> 00:42:39: that transition for them first.
00:42:40 --> 00:42:43: Yeah, great, that's going to be really important.
00:42:43 --> 00:42:45: We just can't have people hanging on paying for the
00:42:45 --> 00:42:46: whole gas infrastructure,
00:42:46 --> 00:42:50: just 'cause they're building didn't get electrified and that kind
00:42:50 --> 00:42:53: of leads me to thinking about just kind of long
00:42:53 --> 00:42:56: term asset value and wondering Kelvin Tom how was that
00:42:56 --> 00:42:58: part of your thinking as well.
00:42:58 --> 00:43:01: You know what's the kind of going to be the
00:43:01 --> 00:43:03: long term value of a building and deciding to go
00:43:04 --> 00:43:04: all electric.
00:43:06 --> 00:43:08: Well, I'll jump in and say yes,
00:43:08 --> 00:43:12: for the same reasons Panama highlighted earlier is is that
00:43:12 --> 00:43:15: if there were not going to be able to replace
00:43:15 --> 00:43:17: the existing gas equipment in,
00:43:17 --> 00:43:22: you know eight years 2030 if the car policies are
00:43:23 --> 00:43:23: enacted,
00:43:23 --> 00:43:27: you essentially have a stranded assets and the cost to
00:43:27 --> 00:43:31: try and electrify something at that time is.
00:43:31 --> 00:43:36: Prohibitive, so we're definitely interested in if if we can't
00:43:36 --> 00:43:40: electrify something now for doing a major rehab,
00:43:40 --> 00:43:43: at least we can put in the infrastructure so that
00:43:43 --> 00:43:47: we can electrify when those gas appliances can be used
00:43:47 --> 00:43:47: anymore,
00:43:47 --> 00:43:50: but we don't want to have these stranded assets.
00:43:52 --> 00:43:57: Yeah, I agree I. I mean I think a lot
00:43:57 --> 00:43:58: of.
00:43:58 --> 00:44:01: At least the space I mean.
00:44:01 --> 00:44:07: Buildings. Data existing. In in need of light.
00:44:09 --> 00:44:14: Ah. Modernization. To kind of.
00:44:14 --> 00:44:17: Yeah, I wouldn't even say extend alive.

00:44:17 --> 00:44:20: I think it's kind of like a lot of the
00:44:20 --> 00:44:23: gas appliances in the buildings that the space I play
00:44:23 --> 00:44:24: in.
00:44:24 --> 00:44:28: Kind of on life support like people are just putting.
00:44:28 --> 00:44:30: Spend it on it just to make it work longer
00:44:30 --> 00:44:32: and longer and longer.
00:44:32 --> 00:44:35: But I mean at some point you just need to
00:44:36 --> 00:44:39: like rip out the bandit and put in the new
00:44:39 --> 00:44:40: heat pump.
00:44:40 --> 00:44:46: Modern heat pump appliances that they can last you for
00:44:46 --> 00:44:47: like 20-30 years,
00:44:48 --> 00:44:52: right? So? Definitely the kind of like.
00:44:52 --> 00:44:56: Longevity of the asset coming today question.
00:44:57 --> 00:45:00: And and this is really leading me to like you
00:45:00 --> 00:45:00: know,
00:45:00 --> 00:45:02: we're hearing about all these benefits.
00:45:02 --> 00:45:05: We got like acid value,
00:45:05 --> 00:45:06: you know, some operational costs,
00:45:06 --> 00:45:10: equity, what do you? Surely there's some challenges,
00:45:10 --> 00:45:12: so I guess I want to hear from Tom and
00:45:12 --> 00:45:12: Kelvin.
00:45:12 --> 00:45:15: OK, we're kind of hearing a Rosie song about building
00:45:15 --> 00:45:15: electrification,
00:45:15 --> 00:45:18: but like, what were their challenges in this that were
00:45:19 --> 00:45:21: different to you than other retrofit projects?
00:45:21 --> 00:45:26: Tom oar? And then? And with that in mind,
00:45:26 --> 00:45:27: you know, thinking of those challenges,
00:45:27 --> 00:45:29: what can we do to like help address?
00:45:29 --> 00:45:29: Those.
00:45:31 --> 00:45:35: Well, I think there's got to be technical assistance up
00:45:35 --> 00:45:38: front for the developer very early on because a lot
00:45:38 --> 00:45:42: of these decisions about how much room you're going to
00:45:42 --> 00:45:46: have in your building for putting in the compressors that
00:45:46 --> 00:45:50: move the heat from the outside to the inside to
00:45:50 --> 00:45:51: the storage tanks.
00:45:51 --> 00:45:54: You know people are used to building buildings with certain
00:45:55 --> 00:45:57: way and with certain size for a boiler room would
00:45:57 --> 00:45:59: have you or you know a water heater,
00:45:59 --> 00:46:03: closet and so you need to have someone who's experienced
00:46:03 --> 00:46:07: in this to provide the developer and the architects with
00:46:07 --> 00:46:07: this.
00:46:10 --> 00:46:12: Design assistance and so luckily in the case of light

00:46:12 --> 00:46:12: tree,
00:46:12 --> 00:46:16: the Association for for to build affordable energy had an
00:46:16 --> 00:46:21: epic grant from CDC to provide consulting for this particular
00:46:21 --> 00:46:21: project,
00:46:21 --> 00:46:24: 'cause it was the cutting edge project where they're trying
00:46:25 --> 00:46:26: to understand something.
00:46:29 --> 00:46:34: Electrification and so that's the other piece of the puzzle
00:46:34 --> 00:46:38: is that you know that meant we didn't have to
00:46:38 --> 00:46:39: pay for an extra.
00:46:39 --> 00:46:42: Consultant to come in to do the modeling and help
00:46:42 --> 00:46:45: the architect with the design and to figure out a
00:46:45 --> 00:46:47: lot of those things that we don't have.
00:46:47 --> 00:46:51: The staff capacity or the expertise to do and so
00:46:52 --> 00:46:56: the other pieces for you know existing buildings.
00:46:56 --> 00:47:00: If you're trying to squeeze a new technology into an
00:47:00 --> 00:47:01: old property,
00:47:01 --> 00:47:05: you don't want to have an energy hog where you're
00:47:05 --> 00:47:09: going to have to because it's not properly insulated or
00:47:09 --> 00:47:11: you don't have right windows.
00:47:11 --> 00:47:15: You're going to waste a lot of electricity trying to
00:47:15 --> 00:47:19: keep that energy hog cool in the summer and hot
00:47:19 --> 00:47:20: in the winter.
00:47:20 --> 00:47:23: So you've got to think about it's not just about
00:47:23 --> 00:47:23: electrification,
00:47:23 --> 00:47:25: but if you're going to be really efficient,
00:47:25 --> 00:47:28: you have to make sure that your envelope is going
00:47:28 --> 00:47:30: to be tight enough so you're not going to waste
00:47:30 --> 00:47:32: all that energy that you're putting into the space by
00:47:32 --> 00:47:36: heating or cooling it all the time and and so
00:47:36 --> 00:47:37: there's gotta.
00:47:37 --> 00:47:40: There's got to be funding not only for helping.
00:47:40 --> 00:47:45: The specially affordable housing developers where it's very unaffordable these
00:47:45 --> 00:47:46: days to build.
00:47:46 --> 00:47:49: But to make sure that we're building smart upfront.
00:47:49 --> 00:47:52: But it's it's much harder to do this kind of
00:47:52 --> 00:47:54: work if you're sort of trying to retrofit it in
00:47:54 --> 00:47:57: sort of laid in the stage of the of the
00:47:57 --> 00:48:00: design and and the architectural sort of process of getting
00:48:00 --> 00:48:02: to construction documents,
00:48:02 --> 00:48:05: you don't want to have to try and figure out
00:48:05 --> 00:48:07: that when when the project is already,

00:48:07 --> 00:48:11: you know the concrete is poured.
00:48:11 --> 00:48:15: So I think those those things have sort of that
00:48:15 --> 00:48:20: funding and and the type program is also sorry for
00:48:20 --> 00:48:20: the.
00:48:20 --> 00:48:27: Yeah. Call their the type program is bringing in the
00:48:28 --> 00:48:29: contractor,
00:48:29 --> 00:48:32: so you gotta make sure you've got a good contractor
00:48:32 --> 00:48:34: base and knows how to install heat pumps.
00:48:34 --> 00:48:36: Because refrigerant is a gas,
00:48:36 --> 00:48:40: is a global has global warming potential significantly,
00:48:40 --> 00:48:43: and if you're not running those refrigerant lines correctly or
00:48:44 --> 00:48:46: installing the systems correctly,
00:48:46 --> 00:48:47: you're you're not going to.
00:48:47 --> 00:48:48: You're going to make the problem worse,
00:48:48 --> 00:48:52: so luckily is trying to get the the midstream part
00:48:52 --> 00:48:54: of the market.
00:48:54 --> 00:48:57: Installers, because so much of this resolves,
00:48:57 --> 00:49:00: revolves around how well these systems are installed in the
00:49:00 --> 00:49:00: field,
00:49:00 --> 00:49:02: and if they're not installed correctly,
00:49:02 --> 00:49:05: there it's not going to work and achieve the efficiencies.
00:49:07 --> 00:49:09: Thank you, yeah we know this state.
00:49:09 --> 00:49:12: There are some technical assistance programs we're going to dive
00:49:12 --> 00:49:14: into that a bit more in our next webinar and
00:49:14 --> 00:49:15: like some of the funding,
00:49:15 --> 00:49:17: but I want to follow up on this particular notion
00:49:18 --> 00:49:20: around the contractor base and kind of pivot over to
00:49:20 --> 00:49:22: Atlanta before I go back to Kelvin on some of
00:49:22 --> 00:49:26: his challenges. But like I know that workforce development is
00:49:26 --> 00:49:26: kind of a key,
00:49:26 --> 00:49:29: so can you? Do you have any comment on that?
00:49:30 --> 00:49:35: Yeah, workforce development and bringing high quality job opportunities is
00:49:35 --> 00:49:38: a is a big goal of ours with building electrification
00:49:38 --> 00:49:41: so there's a couple of things that we're doing to
00:49:41 --> 00:49:45: really increase the number of jobs one is establishing a
00:49:45 --> 00:49:50: workforce development group where we're collaborating with other workforce development
00:49:50 --> 00:49:50: partners,
00:49:50 --> 00:49:56: including labor groups and training organizations of vocational training partners
00:49:56 --> 00:50:00: that can really help to bring in the resources that

00:50:00 --> 00:50:00: we need.

00:50:00 --> 00:50:05: To train the future workers for building electrification.

00:50:05 --> 00:50:09: So we're looking to start a working group that focuses

00:50:09 --> 00:50:13: specifically on planning for future work in building electrification.

00:50:13 --> 00:50:17: The second thing I would say around workforce training is

00:50:17 --> 00:50:21: really or workforce development is really trying to reduce barriers

00:50:21 --> 00:50:22: to entry,

00:50:22 --> 00:50:26: especially for contractors that serve our historically marginalized communities.

00:50:26 --> 00:50:29: Some of our contractors face a lot of barriers,

00:50:29 --> 00:50:32: just even outside of building electrification.

00:50:32 --> 00:50:34: So we want to try to see to better understand

00:50:34 --> 00:50:37: those barriers and work with these contractors so that they

00:50:37 --> 00:50:41: can help our historically marginalized communities get better access to

00:50:41 --> 00:50:44: building, electrification, and to retrofits.

00:50:45 --> 00:50:47: Great thank you. I want to just get.

00:50:47 --> 00:50:48: I'll ask Kelvin this question then I want to get

00:50:48 --> 00:50:50: to some of these audience questions.

00:50:50 --> 00:50:53: So just Kelvin briefly like do you see what it

00:50:53 --> 00:50:53: would be like?

00:50:53 --> 00:50:57: Is there a particular big barrier that you think that

00:50:57 --> 00:50:58: we could address for,

00:50:58 --> 00:50:59: you know, kind of a small,

00:50:59 --> 00:51:02: multifamily owners like you in the process?

00:51:02 --> 00:51:05: Or did. Tom kind of cover it with his technical

00:51:05 --> 00:51:06: assistance and money answer.

00:51:08 --> 00:51:10: Yeah, I think Tom be much cover,

00:51:10 --> 00:51:11: but let me add two things.

00:51:11 --> 00:51:16: Real quick, right? One, I feel like you know maybe

00:51:16 --> 00:51:17: and and I,

00:51:17 --> 00:51:21: I'm really grateful looking the city on the permitting process,

00:51:21 --> 00:51:24: but I think that with the permitting process,

00:51:24 --> 00:51:27: maybe it can be like looked at to be more

00:51:27 --> 00:51:28: streamline and you know,

00:51:28 --> 00:51:32: have kind of like a more.

00:51:32 --> 00:51:37: Accelerated path for heat pump type of installation as well

00:51:37 --> 00:51:39: as historic buildings.

00:51:39 --> 00:51:42: You know, because you know for historic building,

00:51:42 --> 00:51:44: you need to kind of like go.

00:51:44 --> 00:51:45: I won't go into detail,

00:51:45 --> 00:51:49: but a big loop to get it approved even before
00:51:49 --> 00:51:51: you start the work right.
00:51:51 --> 00:51:54: I think the second thing that you know I'm kind
00:51:54 --> 00:51:57: of like in the discussion with tech and they're,
00:51:57 --> 00:51:58: and I mean more to US tech.
00:51:58 --> 00:52:01: Beiran is good, but we've tagged,
00:52:01 --> 00:52:03: you know, they pay the contractor.
00:52:03 --> 00:52:07: Directly, uh, rather than paying us,
00:52:07 --> 00:52:10: but the contractor don't get paid until the project is
00:52:10 --> 00:52:10: done,
00:52:10 --> 00:52:12: which could be like 2-3 months out,
00:52:12 --> 00:52:17: right so? You know with this type of arrangement,
00:52:17 --> 00:52:19: you. You tend to, uh,
00:52:20 --> 00:52:25: uh, be limited to hiring like big contractor because they
00:52:25 --> 00:52:28: have the money to float the project,
00:52:28 --> 00:52:31: right? I'm working with the small time contractor that you
00:52:31 --> 00:52:34: know he's not going to wait till like three or
00:52:34 --> 00:52:36: four months later to get paid right?
00:52:36 --> 00:52:38: So I have to come up with my own money
00:52:38 --> 00:52:40: but at the end of the day the check goes
00:52:40 --> 00:52:42: to him so I have to recover the money from
00:52:42 --> 00:52:46: him, right? So it's very clunky and I feel like
00:52:46 --> 00:52:47: you know.
00:52:47 --> 00:52:51: These kind of things kind of have to be looked
00:52:51 --> 00:52:51: at,
00:52:51 --> 00:52:56: you know, from the perspective of like a small multifamily
00:52:56 --> 00:52:57: owner,
00:52:57 --> 00:53:00: because we. We we can't.
00:53:00 --> 00:53:04: It doesn't make financial sense to to hire a big.
00:53:04 --> 00:53:08: Contract company that you know have a huge margin and
00:53:08 --> 00:53:11: infrastructure and and I mean overhead right?
00:53:11 --> 00:53:11: So
00:53:12 --> 00:53:14: great thank you I wanna just I want to pivot
00:53:14 --> 00:53:16: 'cause we got these great questions.
00:53:16 --> 00:53:18: There seems to be a common theme and it's really
00:53:18 --> 00:53:19: kind of going to the bigger picture.
00:53:19 --> 00:53:22: And one of those is really around PG and E
00:53:22 --> 00:53:24: and I'm not sure who's best positioned to answer this.
00:53:24 --> 00:53:27: Could be. Ellena could be Panama as far as you
00:53:27 --> 00:53:31: know it's you know the building owner can control what
00:53:31 --> 00:53:32: they can control.
00:53:32 --> 00:53:35: Is the grid well. It seems like the grid needs

00:53:35 --> 00:53:36: some improvements,
00:53:36 --> 00:53:41: you know. Is there a way that I guess?
00:53:41 --> 00:53:43: Does PG and E have plans to like upgrade infrastructure
00:53:43 --> 00:53:45: to make some of those things happen?
00:53:45 --> 00:53:47: It's great that they're standing up in Berkeley and saying,
00:53:47 --> 00:53:50: hey, we wanna help people get off gas,
00:53:50 --> 00:53:51: but are they doing that?
00:53:51 --> 00:53:53: And R is the that's kind of Panama.
00:53:53 --> 00:53:55: Maybe if you have any insight into that and then
00:53:55 --> 00:53:57: to Elena like are you where you guys as a
00:53:57 --> 00:53:59: city working with PG and E on some of that
00:53:59 --> 00:54:00: infrastructure?
00:54:01 --> 00:54:03: Sure, so there's there's a few different things here.
00:54:03 --> 00:54:04: There's a bunch in that question,
00:54:04 --> 00:54:07: so there's the distribution side of it.
00:54:07 --> 00:54:09: You know which is locally and the impact of electrifying
00:54:09 --> 00:54:12: these buildings on the local distribution infrastructure,
00:54:12 --> 00:54:14: but I think the question I saw in the chat
00:54:14 --> 00:54:17: is probably more related to like statewide issues you know,
00:54:17 --> 00:54:19: and some of the blackouts we had last year,
00:54:19 --> 00:54:22: and then some of the rolling blackouts we've had to
00:54:22 --> 00:54:27: prevent blackouts from wildfires or from wildfires themselves back in
00:54:27 --> 00:54:27: 2017.
00:54:27 --> 00:54:31: So I'll just briefly address each of those.
00:54:31 --> 00:54:36: On the large scale, blackout statewide or in regional areas,
00:54:36 --> 00:54:40: fundamentally we need to have a safe and strong electrical
00:54:40 --> 00:54:43: grid to have an operating economy in California,
00:54:43 --> 00:54:44: just like regardless of climate change,
00:54:44 --> 00:54:48: we just seem to demand of our elected leaders that
00:54:48 --> 00:54:49: we have a safe,
00:54:49 --> 00:54:52: stable grid here in California and the reality is that
00:54:52 --> 00:54:56: relying on gas for heating doesn't make you any more
00:54:56 --> 00:54:58: resilient than relying on electricity,
00:54:58 --> 00:55:01: because every modern gas water heater.
00:55:01 --> 00:55:05: Our gas heater has an electric ignition for safety purposes,
00:55:05 --> 00:55:08: and so you're going to have the same issue if
00:55:08 --> 00:55:11: you have blackouts with gas as you do with electricity,
00:55:11 --> 00:55:14: and So what we need to be demanding is that
00:55:14 --> 00:55:18: we're making the investments in our electrical system to have
00:55:18 --> 00:55:20: a 21st century electric system.
00:55:20 --> 00:55:23: PG and E is just gone through a massive investment

00:55:23 --> 00:55:26: into grid hardening as well as investing in storage over
00:55:27 --> 00:55:30: 3000 megawatts of storage has just been approved by the
00:55:30 --> 00:55:33: Public Utilities Commission, so we're starting to see them put
00:55:33 --> 00:55:34: in place.
00:55:34 --> 00:55:37: The types of grid hardening and resiliency features we're going
00:55:37 --> 00:55:40: to need to make sure we're building that 21st century
00:55:40 --> 00:55:40: grid,
00:55:40 --> 00:55:43: but it's in process. The reality is we built this
00:55:43 --> 00:55:46: infrastructure over the last 6 decades and we weren't building
00:55:46 --> 00:55:49: it for the climate change realities that we're facing right
00:55:49 --> 00:55:54: now. Nobody expected to be seeing Hurricane force wind in
00:55:54 --> 00:55:57: the hills or in the Sierras on land.
00:55:57 --> 00:56:01: On the distribution side is a much more complicated conversation
00:56:01 --> 00:56:03: and it gets down to the individual community and Elena
00:56:03 --> 00:56:06: will be able to better talk about what's happening in
00:56:06 --> 00:56:09: San Jose around distribution impacts.
00:56:11 --> 00:56:13: Yeah, so at a more local level,
00:56:13 --> 00:56:16: some of the things that we're focusing on our one
00:56:16 --> 00:56:20: energy efficiency continuing to invest in promote energy efficiency programs
00:56:20 --> 00:56:23: because we want to continue to minimize impacts to the
00:56:23 --> 00:56:27: grid. Two is time of use rates and really trying
00:56:27 --> 00:56:32: to encourage residents to use electricity when it's abundant and
00:56:32 --> 00:56:36: available so we can use time of use rates to
00:56:36 --> 00:56:40: really shift behavior. And also pair that with building electrification
00:56:40 --> 00:56:41: technologies.
00:56:41 --> 00:56:45: That can adapt. It can be adaptive for time of
00:56:45 --> 00:56:49: use rates and and then the third is just adding
00:56:49 --> 00:56:53: more local utility scale solar plus battery storage,
00:56:53 --> 00:56:56: and SJC is working on that to to add more
00:56:56 --> 00:57:00: and more renewables plus battery storage so that we can
00:57:00 --> 00:57:01: increase our resiliency.
00:57:02 --> 00:57:05: Last day I also just wanted to mention that in
00:57:05 --> 00:57:09: our building electrification plan we also have some Community based
00:57:09 --> 00:57:12: solutions to increase Community resiliency.
00:57:12 --> 00:57:16: During blackouts, and one of the recommendations that we heard
00:57:16 --> 00:57:20: is really retrofitting Community Center so that they can serve
00:57:20 --> 00:57:23: as a safe space for for local residents to go

00:57:23 --> 00:57:26: and be able to access have have heating and cooling
00:57:26 --> 00:57:27: have Wi-Fi?
00:57:27 --> 00:57:31: Have a number of different resources that can help help
00:57:31 --> 00:57:35: our vulnerable residents during during these types of blackouts.
00:57:37 --> 00:57:40: Thank you guys, so I'm hoping to squeeze in just
00:57:40 --> 00:57:42: one last question and maybe just for a couple quick
00:57:42 --> 00:57:44: comments and that's kind of trying to tie in a
00:57:44 --> 00:57:47: few that we didn't quite get to you as just
00:57:47 --> 00:57:49: a comment around CPUC,
00:57:49 --> 00:57:53: possibly disincentivizing solar. I think that that has been tabled
00:57:53 --> 00:57:55: for the time being Panama.
00:57:55 --> 00:58:00: That kind of the NM 3.0 like there a plan
00:58:00 --> 00:58:02: did come out that's.
00:58:02 --> 00:58:04: They were going to the state was gonna offer a
00:58:04 --> 00:58:07: lot less money for net energy metering in an attempt
00:58:07 --> 00:58:08: to incentivize batteries I think,
00:58:08 --> 00:58:10: but it kind of wasn't working out very well as
00:58:11 --> 00:58:12: your understanding of that has been tabled.
00:58:12 --> 00:58:13: For.
00:58:14 --> 00:58:15: It's been tabled for now.
00:58:15 --> 00:58:17: Something will come out eventually,
00:58:17 --> 00:58:20: but it has been tabled for now and it looks
00:58:20 --> 00:58:23: like one of the potential outcomes that people are circling
00:58:23 --> 00:58:25: around is how do you make a much more electrification
00:58:25 --> 00:58:30: friendly rate structure that would still incentivize solar,
00:58:30 --> 00:58:34: but it would also incentivize electrification of end uses,
00:58:34 --> 00:58:35: so stay tuned
00:58:35 --> 00:58:36: and then on that note,
00:58:36 --> 00:58:39: I think we're going to see the rise of virtual
00:58:39 --> 00:58:43: power plants so buildings that are all electric and have
00:58:43 --> 00:58:45: batteries will be able to start being.
00:58:45 --> 00:58:47: We're expecting to see some rules come out about that
00:58:47 --> 00:58:49: we're willing to be able to trade energy,
00:58:49 --> 00:58:51: and I think we had a question related to that
00:58:51 --> 00:58:52: to grid interactive designs,
00:58:52 --> 00:58:55: and I guess at points like the future of buildings,
00:58:55 --> 00:58:58: is there anyone who'd like to kind of comment of
00:58:58 --> 00:59:01: how they kind of where they see the market going
00:59:01 --> 00:59:03: in terms of these electric buildings?
00:59:03 --> 00:59:04: Tom,

00:59:04 --> 00:59:07: I just say as part of the tech I know
00:59:08 --> 00:59:12: the build program that's not for existing buildings.
00:59:12 --> 00:59:15: It's for new construction but they.
00:59:15 --> 00:59:18: Do require that the heat pump water heaters be demand
00:59:18 --> 00:59:22: responsive to the grid so that it's it's part of
00:59:22 --> 00:59:23: the calculation.
00:59:23 --> 00:59:26: It's I don't think it's necessarily.
00:59:26 --> 00:59:31: You get more points in the application for the build
00:59:31 --> 00:59:35: program if the the appliances are J 813 I think
00:59:35 --> 00:59:41: is the the code interactive and for demand response management.
00:59:42 --> 00:59:45: Any less comments on the future of electric buildings?
00:59:48 --> 00:59:50: Alright then with that I would like to thank all
00:59:50 --> 00:59:52: of you so much for your time.
00:59:52 --> 00:59:55: You it's everyone. You'll see some links to the to
00:59:55 --> 00:59:58: the plan to San Jose's plan and please do come
00:59:58 --> 01:00:01: back and see us on April 10th for a more
01:00:01 --> 01:00:02: of a deep dive into the house.
01:00:02 --> 01:00:04: Really appreciate your time. Thank you speakers,
01:00:04 --> 01:00:06: you're wonderful. Take care everyone.

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