

WEBVTT

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00:00:16.520 --> 00:00:18.619

Carolyn / SPUR Public Programs: Hi, everyone welcome in.

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00:00:18.830 --> 00:00:23.250

Carolyn / SPUR Public Programs: We're going to give it a minute for every for people to go in and get started.

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00:00:55.320 --> 00:00:57.730

Carolyn / SPUR Public Programs: Alright, everyone. Let's get started.

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Carolyn / SPUR Public Programs: Thank you all for joining us today. My name is Carolyn Chung, and I am a senior public engagement associate here at Spur. Thank you all for joining us for this digital discourse today. Many of you here are spur members. But thank you so much for your support.

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Carolyn / SPUR Public Programs: If you are not a member. I encourage you to join spurs, ongoing work in education, policy, analysis, and advocacy, to make our cities and region more prosperous, sustainable, and equitable places, to live

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Carolyn / SPUR Public Programs: your financial support and encourages us to continue our work, including the hosting of programs like today's.

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00:01:31.580 --> 00:01:36.920

Carolyn / SPUR Public Programs: you'll find more information about membership online@spur.org slash join.

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00:01:37.460 --> 00:01:42.250

Carolyn / SPUR Public Programs: We also have another digital discourse scheduled for next Tuesday, at 5 PM.

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00:01:42.420 --> 00:01:53.719

Carolyn / SPUR Public Programs: Join us virtually next week for a book talk with authors. Paul G. Lewis and Nicholas J. Morantz on the book Regional Governments and the politics of housing in the San Francisco Bay area.

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00:01:53.880 --> 00:01:55.889

Carolyn / SPUR Public Programs: We'll drop a link later in the chat.

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00:01:57.010 --> 00:02:01.390

Carolyn / SPUR Public Programs: Today's digital discourse is titled Affordable home electrification.

12

00:02:01.490 --> 00:02:06.009

Carolyn / SPUR Public Programs: How the Bay area can embrace clean appliances without hurting our pocketbooks

13

00:02:06.790 --> 00:02:13.570

Carolyn / SPUR Public Programs: when the Bay Area air district passed the nation's first 0 mission standards for furnaces and water heaters.

14

00:02:13.630 --> 00:02:15.379

Carolyn / SPUR Public Programs: They laid down a marker.

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00:02:15.560 --> 00:02:26.129

Carolyn / SPUR Public Programs: Within just a few years the Bay area will install clean electric appliances in place of polluting gas, burning equipment as their old appliances reach their end of life.

16

00:02:26.510 --> 00:02:31.640

Carolyn / SPUR Public Programs: How can policymakers make this transition affordable for homeowners, landowners

17

00:02:31.880 --> 00:02:33.039

Carolyn / SPUR Public Programs: and renters

18

00:02:33.260 --> 00:02:42.270

Carolyn / SPUR Public Programs: hear from Peninsula clean energy, pacific gas and electric silicon valley, clean energy and spur about strategies to bring down costs.

19

00:02:42.330 --> 00:02:47.420

Carolyn / SPUR Public Programs: provide financial incentive programs and keep electricity bills as low as possible

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00:02:48.560 --> 00:03:03.460

Carolyn / SPUR Public Programs: for today's Q&A, we plan for this to be an

interactive conversation with you all. So I encourage you to use a chat box to share your thoughts with each other and with the speakers. I encourage you to submit any questions that you may have by using the Q&A panel.

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Carolyn / SPUR Public Programs: it should appear as a button at the bottom of your screen, or if you are using the mobile app at the top of your screen.

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00:03:09.650 --> 00:03:17.079

Carolyn / SPUR Public Programs: Within the next few days we'll be sharing a copy of the recording transcript and chat with everyone who registered.

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00:03:17.350 --> 00:03:23.189

Carolyn / SPUR Public Programs: With that I'll turn it over to Eric Rodriguez from Silicon Valley. Clean energy to get us started.

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Eric Rodriguez | Silicon Valley Clean Energy: Thank you so much, Carolyn.

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00:03:30.530 --> 00:03:41.719

Eric Rodriguez | Silicon Valley Clean Energy: Yeah, hello! We are excited to be sponsored at this course we are Silicon Valley clean energy, a community choice agency that serves jurisdiction. DC. 13. On this slide

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00:03:43.270 --> 00:03:58.490

Eric Rodriguez | Silicon Valley Clean Energy: organizations focused on decarbonization and are guided by our mission to reduce dependence on fossil fuels, by providing carbon-free affordable and reliable electricity and innovative programs to our Sbc Sdc. Community

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Eric Rodriguez | Silicon Valley Clean Energy: silicon valley clean energy is committed to home electrification through our program as seen as a slide.

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Eric Rodriguez | Silicon Valley Clean Energy: I'd highlight our Ehub and future fit homes programs which centralize resources for electrification for customers and offer rebates of up to \$8,000 to make the switch from, to make the switch to clean and electric appliances.

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Eric Rodriguez | Silicon Valley Clean Energy: You can learn more about our programs online, through our socials and with the links that you and some of the links here, you can see.

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Eric Rodriguez | Silicon Valley Clean Energy: We look forward to your engagement on this digital digital discourse, host to vice for

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00:04:40.460 --> 00:04:54.910

Laura Feinstein: great. And with that I will jump into our first talk. Thanks so much, Eric Silicon Valley. Clean energy has been a real leader in helping their customers decarbonize. And I'll be talking about some of your programs today.

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Laura Feinstein: Go ahead and share my screen.

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Laura Feinstein: 1 s. There.

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00:05:19.690 --> 00:05:20.720

Laura Feinstein: there you go!

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Laura Feinstein: That is really weird.

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Laura Feinstein: There we go.

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Laura Feinstein: Don't know quite what was going on there for a second. All right, we're back on track. So my name is Laura Feinstein. I am the sustainability and resilience policy director at Spur, and I'm going to be talking about closing the Affordability gap as the Bay Area transitions away from using fossil fuels for heat in the Bay area in California.

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Laura Feinstein: And then next we'll be hearing from Blake from Peninsula clean energy. Who will be talking about some of the programs that they're

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Laura Feinstein: consumer. Choice aggregator is able to operate in San Mateo County, and then we'll hear from Rachel, from Pg. And E. Who will be able to talk more about energy rates in this transition.

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Laura Feinstein: So up today in my talk, I'll be covering the urgency of making 0 pollution appliances affordable. And then how much does it cost to install 0 pollution appliances in the Bay area and some quick takeaways and recommendations.

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Laura Feinstein: So first, the regulatory context, the Bay Area Air Quality Management district passed rules in April that will require that when people's old

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Laura Feinstein: furnaces and hot water heaters are ready to be replaced that they'd be replaced with 0 pollution versions. So that means that nobody's working furnace or working water heater will be pulled out and thrown away, but rather when they reach their end of life they will be replaced with a version that does not pollute and the most cost effective versions of those appliances.

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Laura Feinstein: our heat our water heaters, or I'm sorry our heat pumps

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Laura Feinstein: and these regulations have a great deal of benefits for the Bay area. They're projected to reduce carbon emissions from appliances by almost 3 quarters by 2046,

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Laura Feinstein: and reduce the health harming nitrogen oxide that comes from fossil fuel combustion by close to 90% by 2046. That nitrogen oxide in turn creates ozone and particulate matter, and so reducing those nitrogen oxide emissions will prevent up to 15,000 asthma attacks.

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and up to 85 premature deaths every year.

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Laura Feinstein: So the benefits of these rules are immense.

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Now, the Bay area itself, of course, is just 9 counties, but these rules are precedent setting for the State and the nation.

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Laura Feinstein: There's been a huge amount of momentum on getting new construction to be all electric of late in California and other States as well. But these are the first rules focusing on the conversion of existing buildings to using 0 pollution appliances.

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Laura Feinstein: The California Air Resources Board is following this process closely and is poised to follow suit. If these rules are implemented successfully.

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Laura Feinstein: however, the success of these rules really hinges on whether or not they're affordable both for low income households, for low income households, including the renters and the landlords who serve them.

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Laura Feinstein: So that raises this question, how much does it cost to install 0 pollutions in the Bay Area.

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Laura Feinstein: So Spur took a close look at this. With a cost analysis. We used data sources of real installations from Bayren and Tech, which had data for thousands of installations of both heat pumps as well as gas furnaces and water heaters for recent years in the Bay area.

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Laura Feinstein: And we specifically focused in multi-family buildings on those where each unit has its own individual heating ventilation and cooling system and its own hot water heating system. That's true of most multifamily units in the Bay area. But we did set aside, for now buildings that have central hot water systems as well as those common space upgrades

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Laura Feinstein: and for the incentives we looked at those incentives that low income households would be eligible for so that would be low income. Single family households as well as multi-family buildings where at least half the units are occupied by low income tenants, which is tenant people that earn less than 80% of area Median income, and we took a look at stackable rebates from Federal and State sources from the bay areas, Bayren

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Laura Feinstein: and from the Bay Area 6 Ccas, the community choice aggregators.

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Laura Feinstein: So to walk you through one example of how we did this analysis. This would be the analysis of net costs for a low-income, single family home. That is a Silicon valley, clean energy customer.

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Laura Feinstein: and they have a central ducted gas furnace, so a single furnace that blows hot air throughout the whole home. But they don't have central air conditioning. They just use a single portable air conditioner for one room, and they are converting now to a central ducted heat pump Hvac system, so they will have heating and cooling throughout the home. Now.

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Laura Feinstein: the installation of that heat pump would be close to \$20,000. It's quite expensive. However, they do have access to \$9,400 in Bayren and State and Federal incentives, and because they're a low income. Silicon Valley clean energy customer. They get an extra \$3,500 on top of that.

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Laura Feinstein: and they don't have to spend the \$7,700 that they would have spent to replace their old gas furnace and room air conditioner when they break.

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Laura Feinstein: So in the end their installation costs post incentives is \$6,700, and by not spending the money on a gas furnace and room air conditioner they save a thousand dollars.

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Laura Feinstein: So we walked through that net cost analysis for many different scenarios and geographies. And this is sort of the big takeaway. You see that for people who have central heating and air conditioning already.

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Laura Feinstein: They, those systems are already fairly expensive. And now they're switching over to using just one appliance to cover what 2 used to do, and they realize net savings across the board in the Bay area. Once they take all their incentives, the same is true with heat pump water heaters.

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Laura Feinstein: and also for low income households. The panel replacements, those circuit breaker panels. Those replacement costs can be fully covered. The place where we really see some net costs showing up is in certain places of the Bay area where people have a central furnace, but they don't have central air conditioning. They're switching to a heat pump

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Laura Feinstein: and in certain places, as I was showing you like Santa Clara County, where Silicon Valley clean energy operates. The Ccas come in with their extra incentives and those households realize net savings.

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Laura Feinstein: but in some places where the Ccas have less generous incentives. There will be net costs for people switching over to a heat pump for heating and cooling.

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Laura Feinstein: Now in the multi-family context for doing those in unit appliance replacements. The outcome is a bit rosier because bayren and tech both have more generous incentives on the multifamily side. So across the Bay area, and all these equipment scenarios there would be net savings by switching to heat pumps in multifamily buildings.

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Laura Feinstein: So what are some of the takeaways on the affordability of a clean appliance installations. We're seeing net savings. Fortunately, in most cases, which is amazing.

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Laura Feinstein: There is this affordability gap for the heat pump Hvac systems in single family homes in certain parts of the Bay area, and we need to employ strategies to address that. There's things like inclusive utility financing where a customer a pays off the cost of a more efficient appliances through their bill savings over time.

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Laura Feinstein: The community choice aggregators could take a look at that state and Federal landscape. And given that right now, there's actually.

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often more available and incentives for heat pump water heaters than the projects actually cost. They could shift some of their incentive resources over to the Hvac

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Laura Feinstein: and also long run, you know, incentives and subsidies are not fully going to cover the cost of this transition. So we need those clear, regulatory deadlines and really consistent incentive programs looking forward for years to really help that heat pump market come to scale and bring down the cost of putting in heat pumps.

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Laura Feinstein: We also, even though we're seeing these relatively good results, that it's net savings to switch to heat pumps in a lot of situations. We still need to be mindful that low income households have trouble covering any upfront cost. So even if they're spending 6,700 after incentives for a new heat pump Hvac system. And that's saving them because they didn't have to buy a new furnace.

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Laura Feinstein: They still have trouble covering \$6,700. And so that we need to keep in mind that issue as well as the fact that low income. Households often need other upgrades to their home. They might have older electric electrical systems. They may need asbestos, upgrades.

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Laura Feinstein: So we need programs a that help deal with the cash flow problem like the inclusive utility financing as well as things like free, direct install programs which are available or coming from the California Energy Commission for the Community Services Development Department and as Blake will be talking about from Peninsula clean energy that can cover some of those whole home electrification costs.

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Laura Feinstein: And then there is a whole category of costs

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Laura Feinstein: when electrifying that we haven't talked about yet, which is electrical service upsizing. And I know Rachel is going to dig into this a bit more in a few minutes. Now this is the cost

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Laura Feinstein: that when you do an electrification retrofit, you're putting in a new electric appliance that may in turn trigger a need for a panel, upsize where you need to take out that circuit breaker panel and put in one with a higher capacity. That circuit breaker panel is that metal panel? When you have, you know, a power

outage and a few lights go out in your home. That's the panel you go to flip the circuit breaker switch to get the

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Laura Feinstein: lights back on. So when that needs to be upsized that

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Laura Feinstein: can doesn't always, but can in turn trigger an electrical service, upsize, meaning that the utility needs to come out and increase the capacity of the wire that goes from the utilities power lines to your home.

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Laura Feinstein: and those costs vary widely. They can vary anywhere from \$3,000 to \$46,000. So this huge range and the number of homes that require, and a panel and electrical service up size, we also don't have a good handle on it could be somewhere from 5 to 50 of homes. So there's this huge range there.

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Laura Feinstein: So the takeaways on the electrical service upsizing costs are that it's a big wild card right now for the cost of 0 appliance, installation, and we urgently need to better understand how often panel and service upsizing are necessary, and at the same time bring down those really high end costs, make them more manageable, and that can be done by averting unnecessary panel and service up sizing

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Laura Feinstein: with what's known as what diet strategies I won't dive into. But you can use this link when the slides go out to read more about it.

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Laura Feinstein: And also at present, when people need an electrical service up size because they're putting in a new electric vehicle charger, they're actually able to get those costs covered by the utilities. But we've never extended that same policy to other types of electrical service upgrades. And it's time that

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Laura Feinstein: the cpuc look into doing that.

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Laura Feinstein: And with that, thank you so much. And I'll be taking questions at the end, and I'll be passing it on for right now to Blake from Peninsula. Clean energy.

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Blake Herrschaft: Thank you, Laura. My great presentation. And we're big fans of spur over at Peninsula. Clean energy, so happy to be here. I'm going to share my screen and talk about what we've been doing with low income programs for the last couple of years.

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Blake Herrschaft: and what we're planning going forward

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Blake Herrschaft: perfect

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Blake Herrschaft: Peninsula. Clean energy is the community choice aggregator for San Mateo County. So we deliver electric generation to most residents in that county and then it's 100% carbon free, or nearly virtually carbon free. And then we pass that energy through Pg and E as a partner to our customers

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Blake Herrschaft: as far as our programs. We have a different program track for low income. And then all income levels which low income, middle income and higher incomes can all use for low income program I'm gonna be talking about today. We install a single electrification measure for free and include minor home repair so we come in and do that as direct install

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Blake Herrschaft: tomorrow. So next year we're looking to do whole home electrification as part of that come in and replace everything fully electrify homes. And then for all income levels we provide rebates with a goal to offset the incremental cost as Laura had

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Blake Herrschaft: alluded to. We also offer 0% loans. If a middle income family cannot afford that extra 6,700 for that surprise cost of a broken air handler, broken air conditioner. They could finance that with us and pay that back on Bill. And then in the future we're hoping to offer turnkey support. So you could call us, and we'll share the costs and install electrification equipment with other income levels.

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Blake Herrschaft: So now I'm gonna go through what we call our home upgrade program.

This is the initial program which has been running for about 2 years, and we are expanding on when we launch the program. I was 2 million dollar budget with a goal to serve up to 200 homes with home repairs and electrification. It's a big part of our diversity equity accessibility and inclusion focus which we wanna spend 20% of our program dollars toward low income communities.

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Blake Herrschaft: so far we have served 210 homes, and then on the right, I've shown the typical electrification measures that have occurred in terms of scales the most common of in heat pump water heaters, dryers, ranges, and portable heat pumps as discussed. That bigger heat pump costs or the central furnace can be a bigger cost. So we've had less of those. We have. A goal of \$7,000 on average per home. In this program.

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Blake Herrschaft: minor home repair included, might be a handrail for stairs. So stairs are safer mold remediation fixing drywall or a broken window. Things like that also will occur within the program.

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Blake Herrschaft: Some highlights here. This is an emergency water heater replacement. We were able to get in as the heat pump. You can see a very happy family there thanking us for the program, and then that was in Menlo Park, and then we also serve Los Banos, which is a city down south.

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Blake Herrschaft: That's part of our. That's 1 one of our service areas. They really appreciated this program. And there's a picture of a cute little dog in front of a heat pump water heater.

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Blake Herrschaft: Wanted to mention where we've been going with this program this year. So as discussed one measure per home was the previous design.

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Blake Herrschaft: that program. We fully spent down the money and needed to kind of extend the contract. So we decided what we're going to do. While we were doing it we continued minor home repair and one electrification upgrade per home. So we put another bucket of money in to cover another 100 homes through the program.

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Blake Herrschaft: And this helps serve a wait list that we had. We also inc incorporating 120 volt. He pump water heaters they have shown great success and are

an opportunity to avoid a service panel upgrade. So we are trying those in 5 to 10 homes through the program. Some analysis that I've seen. I think 120 volt homes would be

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Blake Herrschaft: completely relevant in most homes in the Bay area. and you can just plug them into existing outlets.

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Blake Herrschaft: And then for ho, we're also incorporating whole home electrification. So we're gonna fully electrify 4 to 6 low income homes through the program. And this gives us an opportunity to evaluate the results. See what the costs really are. See what the implications are for policy and permitting.

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Blake Herrschaft: I just been reviewing those whole home electrification plans over the past week, and we plan to start installing those. I would say the installations will start this month or next month. So really looking forward to getting into whole home electrification

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Blake Herrschaft: and just wanted to show where this fits in our overall vision. And then I'm gonna get to the bigger vision in a moment. So our first contract was fully subscribed

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Blake Herrschaft: early in 2023, and we noticed a gap. We're launching a bigger program in early 2024 so we wanted to make sure that there was still a low income program in that gap. So we basically put this through as a contract extension and this contract amendment, with all those features is filling the gap before our bigger program is implemented.

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Blake Herrschaft: Noting here that as we launch our bigger program, we're trying to align that with Inflation act inflation reduction act incentives coming from the Federal Government and also the State equitable building decarbonization program that's coming for low income households.

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Blake Herrschaft: So what are we looking to do from 2024 to 2026? This is our bigger push in program offering. We really want to scale to whole home.

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Blake Herrschaft: increase the homes impacted per year.

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Blake Herrschaft: Offer one stop shop services. This is Hotlines to call. I saw the question, who do you call to figure out about rebates? Or who do you call to figure out what to do at your home. We're launching a one stop shop to help with that I know. So time Valley clean energy has is in the middle of launching one as well that'll provide live technical assistance which we provide kinda ad hoc. Now someone can call, and you'll probably get me.

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Blake Herrschaft: and I'll help you walk through how to electrify your house. We want that to be a more robust program.

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Blake Herrschaft: and then turnkey services for middle income, which I mentioned earlier will be part of this program.

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Blake Herrschaft: And just want to mention this is part of a much bigger strategy where we want to bring in retail partners. I won't read everything on the slide, provide a one stop shop.

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Blake Herrschaft: provide a hotline that people can call integrate with all other rebate offerings that I show on the bottom. There.

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Blake Herrschaft: Provide turnkey, install oper options and maybe reduce costs through bulk, buy and and workforce developments, and then also provide financing options. Financing is going to be an important piece of the puzzle

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Blake Herrschaft: for

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Blake Herrschaft: many income levels, but is not a solution for everyone. If you can't afford debt, then financing might not be the perfect solution. We'd rather pay for that for you.

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00:26:12.950 --> 00:26:40.789

Blake Herrschaft: So what does this look like for? Specifically for low income residents in single family homes. We're gonna scale to whole home. So we'll spend by our estimates 30 to 45,000 per home. We'll get more information on that from our test cases that we're running and we'll we'll do about 250 homes per year as our goal. That's the minimum to enable a dedicated workforce. I'll show you the value on that. That's basically because there's 250 workdays in a year.

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Blake Herrschaft: So through the home upgrade program.

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Blake Herrschaft: we're planning to have dedicated workforce to our to our program. That's of electricians, plumbers and Hvac technicians. That'll be specifically trained in whole home electrification. That's especially important for electricians. And we'll be on call for an emergency replacement program that we're including in there. Most water heaters are replaced in an emergency and adding an electrical circuit when you don't have hot water becomes a very urgent item.

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Blake Herrschaft: by installing in all these homes, hoping to have bulk by discounts, which is very common when you purchase a lot of equipment. And then we're going to embed innovation into the program by piloting new tech like this 120 volt. Water heaters. Considering virtual power plants to help with our flex events or grid capacity constraints, and then using some advanced design concepts, especially on the electrical side, and also Hvac.

122

00:27:40.210 --> 00:28:11.189

Blake Herrschaft: as we look to our turnkey program, what can we offer to other customers? By having a dedicated workforce for low income. We can also use them for non low income if someone wants to call us, instead of calling a variety of contractors. When I get calls I often am asked which contractor to call. And right now I know contractors in the area, but we don't have a dedicated network for that. So it'll be good to offer that if we can extend equipment discounts to other customers through bulk purchasing. That'll be really useful.

123

00:28:11.230 --> 00:28:17.049

Blake Herrschaft: And then also it. Also the advanced design information we can offer to other customers.

124

00:28:19.210 --> 00:28:35.730

Blake Herrschaft: I wanna note here that we're doing this Rfp, and there's a request for proposals out right now for this program. And we're doing this in concert with Silicon Valley. Clean energy very excited to work together with them.

We work together in a lot of programs. And we share a border

125

00:28:37.280 --> 00:28:49.820

Blake Herrschaft: just wanted to go into a little piece about the essential workforce. We don't. We are planning to have workforce development as part of our approach.

126

00:28:49.830 --> 00:29:03.510

Blake Herrschaft: But really had to think about it. If we're gonna be hiring a program administrator who has contractors on deck that are specifically targeted for our program. We want to know how we can make sure that they have the best experience.

127

00:29:03.650 --> 00:29:18.979

Blake Herrschaft: so just bringing up that we've had this promise of well paying green jobs noting here, you know, Biden and a Forbes article for decades at the same time there's a spur report that has really stuck with me

128

00:29:19.000 --> 00:29:43.089

Blake Herrschaft: called losing ground. I recommend it to anyone who's interested, and this report happened to call out a construction worker in San Mateo. And since we represent San Mateo County, it's very important, and it really has gone through how many formerly middle income occupations are having trouble with housing costs. This report really did stuck with me. And we thought about this in context of our program.

129

00:29:44.600 --> 00:30:08.450

Blake Herrschaft: What we determined was that well, single family programs are not beholden to public works, procurement requirements which would require prevailing wage we are going to require prevailing wage for all workers on the home upgrade project, because it's really important for us that workers as part of the energy transition are paid a prevailing wage or greater, and can really,

130

00:30:08.450 --> 00:30:16.189

Blake Herrschaft: have good access to housing and other features in our society. When we did the analysis on that, that means an extra

131

00:30:16.190 --> 00:30:25.190

Blake Herrschaft: 10 to 20% cost. I did a pretty detailed analysis on that in terms of the per the per project costs. And we think that's money well spent.

132

00:30:25.440 --> 00:30:30.560

Blake Herrschaft: and with that I'm going to pass it on to Rachel at Fijiania.

133

00:30:34.840 --> 00:30:46.079

Rachel Kuykendall: Alright. Hello, everyone! My name is Rachel Kai Kendall with Pg. And E. I'm on a team here called Decarbonization Strategies.

134

00:30:46.100 --> 00:30:57.759

Rachel Kuykendall: It's kind of an interesting team. We think through what the future decarbonized systems of the gas system and the electric system need to look like

135

00:30:57.930 --> 00:30:58.950

Rachel Kuykendall: and then

136

00:30:58.960 --> 00:31:04.560

Rachel Kuykendall: work across Pg and E, to say, what steps do we need to take to to get there?

137

00:31:04.650 --> 00:31:20.860

Rachel Kuykendall: So today I've been asked to talk a little bit about you know what this process looks like dealing with Pg. And E. How you can best prepare for that, and then about some of the costs to operate electric appliances versus gas appliances.

138

00:31:21.200 --> 00:31:28.199

Rachel Kuykendall: and some of the steps you can take to make that more affordable for you or others that are looking to electrify.

139

00:31:29.750 --> 00:31:37.960

Rachel Kuykendall: So first, I want to provide a little bit of context about why Pg and E has sort of really ramped up

140

00:31:38.050 --> 00:31:41.300

Rachel Kuykendall: our activities in the electrification space.

141

00:31:41.400 --> 00:32:07.569

Rachel Kuykendall: So last year P. Janie released a climate strategy report. It's available on our website, Pg, and e.com slash climate. If you're interested in sort of a nerdy read here. At a high level. What the report says is, we are aiming by 2,045 years ahead of the State to be a net 0 energy system.

142

00:32:07.570 --> 00:32:17.630

Rachel Kuykendall: Why, that's relevant to this conversation is the majority of our emissions, particularly what's called scope. 3 emissions

143

00:32:17.630 --> 00:32:35.940

Rachel Kuykendall: come from the natural gas system. So really, you know, to meet these goals, we need to evolve the natural gas system to still be safe and affordable, but also be decarbonized, and a great way to do that is, through building electrification.

144

00:32:38.380 --> 00:32:46.419

Rachel Kuykendall: to start with, and I did see a question in the chat sort of about, How do you? How do you work with P. Janie on this?

145

00:32:46.470 --> 00:33:01.730

Rachel Kuykendall: Laura covered this a little bit. But there's really sort of 2 things that you're looking at primarily dealing with. Pg. And E. On the first is, if you do need a service upgrade for your project

146

00:33:01.750 --> 00:33:05.590

Rachel Kuykendall: on the electric side dealing with us for that.

147

00:33:05.930 --> 00:33:21.969

Rachel Kuykendall: So the approximate cost for that Laura Laura sort of covered that. But to break it out a little further. There's what we typically call front of the meter cost, which is anything that's sort of on the utility side of your electric meter.

148

00:33:22.140 --> 00:33:43.360

Rachel Kuykendall: and then behind the meter cost, which is anything on your side of the electric meter. So you, as the Resident, are responsible for all those behind the meter costs. So that's your your panel upgrade, which runs about like 3 to 6 grand ish currently

149

00:33:43.610 --> 00:33:48.100

Rachel Kuykendall: as well as any wiring, and the appliances themselves.

150

00:33:48.520 --> 00:34:01.889

That front of the meter cost there is what is called an electric line allowance that helps offset that cost. It's currently \$3,225

151

00:34:02.050 --> 00:34:08.259

any costs in excess of that you are also required to pay.

152

00:34:08.330 --> 00:34:13.580

Rachel Kuykendall: And Laura alluded to this. Those costs vary pretty widely

153

00:34:13.610 --> 00:34:15.730

Rachel Kuykendall: a lot of times they are

154

00:34:15.840 --> 00:34:27.569

Rachel Kuykendall: at or under this 3,000 number but they can go up to, you know, 2030 grand if you're looking at sort of a transformer upgrade to accommodate your building electrification.

155

00:34:28.050 --> 00:34:41.189

Rachel Kuykendall: this is something. Actually, that recently, the CPU C, the California Public Utilities Commission is looking at, and actually Pg and E. We proposed

156

00:34:41.330 --> 00:34:51.809

Rachel Kuykendall: that the CPU C should be looking at these costs for people who are upgrading for building electrification, and that they should be fully covered by the utility.

157

00:34:51.850 --> 00:35:13.190

Rachel Kuykendall: So that's an active proceeding right now. We'll sort of see how that goes. But as Laura mentioned those costs are currently covered for electric vehicle customers who are looking to upgrade, so we would. We would love to see that sort of hurdle. Get taken out by this. Cpc, proposal.

158

00:35:13.460 --> 00:35:31.310

Rachel Kuykendall: in order to do this. So there, you can do it 2 ways. If you wanna call us, there's a phone number listed here on this slide. You can also go to your projects Dash, pg, and e.com. The one thing I would really stress here.

159

00:35:31.440 --> 00:35:49.830

Rachel Kuykendall: that makes these processes sometimes take a little bit longer. Make sure you have all your paperwork and all of the documentation when you submit. What happens is Pg. And E has sort of a 3 to 10 day window to review and respond.

160

00:35:50.130 --> 00:36:00.549

Rachel Kuykendall: If you don't have everything there. Then that sort of clock sets goes back to the beginning. So if this can be a somewhat long process, to be frank.

161

00:36:00.720 --> 00:36:11.059

Rachel Kuykendall: so usually what I tell folks is, make sure you have everything together. If you are having trouble, and we do have a couple of resources.

162

00:36:11.080 --> 00:36:20.449

Rachel Kuykendall: So to the comment in the chat about typical timelines. If you go to our website, Pg, and e.com slash electrification

163

00:36:20.620 --> 00:36:27.510

Rachel Kuykendall: we do have a guidebook on exactly what the timelines are from step to step, and what you need.

164

00:36:27.540 --> 00:36:32.939

Rachel Kuykendall: who needs to do what? So it's a really good resource to sort of get yourself familiar with this.

165

00:36:33.130 --> 00:36:41.760

Rachel Kuykendall: The other resource that we have is you can email us at electrification@pgande.com

166

00:36:41.880 --> 00:36:44.549

Rachel Kuykendall: I will say that goes to like

167

00:36:44.580 --> 00:37:04.699

Rachel Kuykendall: 3 of us nerds here at Pg. And E. Who sort of help facilitate these projects like, Blake said. You know we tend to draw the short straw that the folks on this call here so but we we are there to sort of help you navigate some of the the challenging hurdles that sometimes come in these these projects.

168

00:37:05.340 --> 00:37:19.240

Rachel Kuykendall: So that is the first thing. And what I would say there. In addition to having all your paperwork. Hopefully, you don't get to that point. Hopefully, you can think about technologies like smart panels low average heat pumps

169

00:37:19.330 --> 00:37:33.269

Rachel Kuykendall: things that we discussed earlier in this, to to not actually have to trigger that service upgrade. It is totally possible to electrify your home on

100 amp panel if you do it smartly.

170

00:37:35.220 --> 00:37:52.700

Rachel Kuykendall: The second piece. And I think I saw a question about this as well is how to disconnect gas service a very similar process. So the same thing you're going to go to that. Your projects. Pg, and e.com or call us

171

00:37:52.870 --> 00:38:10.589

Rachel Kuykendall: The important thing here is you cannot get out of paying the minimum gas charge until you actually disconnect service at your home. It's about 13 cents a day. So it's not a huge fee, but it does add up

172

00:38:10.740 --> 00:38:20.549

Rachel Kuykendall: So you need to take this step to do that. What P. Janie does is, they come out, and they usually just

173

00:38:20.630 --> 00:38:29.279

Rachel Kuykendall: don't actually remove anything. We just sort of cut off the service in place and and fill the pipe essentially

174

00:38:29.570 --> 00:38:39.590

Rachel Kuykendall: if you have had service at your home for more than 10 years, this is done at no cost to you. So

175

00:38:39.800 --> 00:38:50.000

Rachel Kuykendall: that's the good news. If your home service is, has been there for less than 10 years. Pg. New will provide an estimate for for what that cost looks like.

176

00:38:50.490 --> 00:38:54.900

Rachel Kuykendall: alright

177

00:38:56.160 --> 00:39:00.520

Rachel Kuykendall: onto the fun fun nerdy graphs. So

178

00:39:00.710 --> 00:39:16.090

Rachel Kuykendall: I've been asked to talk a little bit about. You know what this costs in terms of operating costs for the appliances that you'll see in your home, and then mainly talk about space heating and and water heating, because those are kind of the the big 2 here.

179

00:39:16.300 --> 00:39:36.789

Rachel Kuykendall: And I will say, there, there's a source down here. If you want to get into the nitty gritty what I'm using for this heat pump for space heating slide. Is a very technical document that cities are using. When they're pursuing reach energy codes.

180

00:39:36.830 --> 00:39:47.180

Rachel Kuykendall: And this looks at sort of the cost of operating on Bill. So you wanna look generally at this sort of blue bar

181

00:39:47.340 --> 00:39:54.270

Rachel Kuykendall: of a heat pump compared to a gas furnace.

182

00:39:54.760 --> 00:40:09.940

Rachel Kuykendall: And I should say this is a heat pump and an air conditioner. So we're not adding cooling in this case. And you can sort of see here, it's considering sort of the upfront cost and the operating cost. It's pretty negative

183

00:40:09.950 --> 00:40:22.560

Rachel Kuykendall: in almost every case. This is something we still see. This is, I think, the most one of our most challenging end uses to potentially electrify right now.

184

00:40:23.010 --> 00:40:38.460

Rachel Kuykendall: It's a different story. However, this is that same graph for customers that have solar so right now, well, if you're looking to electrify today, I wanna make it cost effective on the heating and cooling side.

185

00:40:38.510 --> 00:40:56.229

Rachel Kuykendall: Really sort of the way to to do this and make it cost effective is to pair it potentially with solar. Now, there isn't a large upfront cost, I think. Blake spoke. And Laura as well about some some resources here. If you're looking to do both of these at once.

186

00:40:56.560 --> 00:40:57.610

Rachel Kuykendall: and

187

00:40:57.720 --> 00:41:01.769

but that's that tends to be right now.

188

00:41:02.620 --> 00:41:04.670

Rachel Kuykendall: the way to make this pencil.

189

00:41:04.800 --> 00:41:17.039

Rachel Kuykendall: I will say in terms of future rates. What? Pg, and E, and really the State as a whole is projecting. Is, our gas rates will go up.

190

00:41:17.610 --> 00:41:37.370

Rachel Kuykendall: and that is because we will have, you know, less customers on the system and less gas in the system. And that sort of spreads those fixed costs of operating the system over less therms, so your price per therm will will generally go up.

191

00:41:37.520 --> 00:42:01.289

Rachel Kuykendall: and we see sort of the reverse. On the electric side. We see electric rates sort of staying somewhat steady through that 2040 period. So we're, you know, while this doesn't look great right now. Frankly, it's gonna get better as we sort of head towards that 2040 timeframe because of some of the way that we

192

00:42:01.340 --> 00:42:04.710

make gas and electric rates in California.

193

00:42:07.520 --> 00:42:21.340

Rachel Kuykendall: The opposite is true, actually of heat pump water heaters. So this is a study that Pg and a put together specifically around heat pump water heaters as a part of

194

00:42:21.370 --> 00:42:33.070

Rachel Kuykendall: a CPU C proceeding, and it looks at sort of changing from a gas water heater to a heat pump water heater. We look at both a 50 gallon tank tank and an 80 gallon tank.

195

00:42:33.540 --> 00:42:53.349

Rachel Kuykendall: And see savings on on sort of both options here for care customers which are low income customers and non care customers, so that annual savings are ranged from about 20 to \$35 or so depending on the

196

00:42:53.640 --> 00:42:56.989

Rachel Kuykendall: tank size and the rate structure you're on.

197

00:42:57.160 --> 00:43:03.150

Rachel Kuykendall: A couple of notes here. You can.

198

00:43:03.260 --> 00:43:11.349

We saw the most savings for this on rate. I'll talk about, which is our electrification home rate. Yeah, lack.

199

00:43:11.640 --> 00:43:14.329

Rachel Kuykendall: That's generally pencils

200

00:43:14.850 --> 00:43:22.649

Rachel Kuykendall: better for customers than sort of our flat rate, which is the one

201

00:43:22.680 --> 00:43:24.180

Rachel Kuykendall: But

202

00:43:24.500 --> 00:43:35.590

Rachel Kuykendall: you know, you can sort of look at that analysis via our rate analysis website. If you wanna learn which rate is is better for you. And I'll get into some of the nuance there.

203

00:43:36.430 --> 00:43:46.519

Rachel Kuykendall: The other thing to note specific to heat pump water here is is we do have a program called water saber with 2 teas. It's it's very punny

204

00:43:46.610 --> 00:43:55.979

Rachel Kuykendall: which offers additional incentives for enrolling your heat pump water heater into a demand response. Program.

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00:43:56.040 --> 00:44:04.679

Rachel Kuykendall: That program also operates your water feeder when it's the least cost to do so. So it will sort of turn your

206

00:44:04.840 --> 00:44:21.740

Rachel Kuykendall: heat pump water heater on before that sort of evening peak rate time, so it can be a money savings opportunity on the operational side as well as the incentive side. So something to definitely look into. If you are thinking about a heat pump, water heater.

207

00:44:22.640 --> 00:44:44.929

Laura Feinstein: Rachel, this is Laura. There's just a couple of questions in the

chat about the charts you were showing like 2 slides ago. And I thought while they're fresh in people's minds, maybe you could go back. I just thought it might be good to just do. Now if you go back. Yeah. So people are just asking

208

00:44:45.140 --> 00:44:49.720

Laura Feinstein: like, first, what the what the y-axis represents.

209

00:44:51.370 --> 00:45:04.390

Rachel Kuykendall: Oh, okay. So y-axis is the net benefits in dollars, so it includes install costs which are generally pretty cost neutral for this measure.

210

00:45:04.480 --> 00:45:07.849

Rachel Kuykendall: As well as operating costs.

211

00:45:08.120 --> 00:45:21.059

Rachel Kuykendall: And then the X-axis that you see here are the California climate zones. When we're talking Bay area, we are talking climate zones 2, 3, 4

212

00:45:21.120 --> 00:45:24.499

at and 12.

213

00:45:25.910 --> 00:45:36.330

Laura Feinstein: So this is the upfront cost of installation, plus the long term operating costs. Is there a benefit? It goes up. If there's a cost, it goes down.

214

00:45:36.720 --> 00:45:46.469

Laura Feinstein: But one important thing to remember here is that these are the installation costs without rebates. Right? It does include rebates. It does include rebates. Okay.

215

00:45:47.490 --> 00:45:48.670

Laura Feinstein: hope that helps.

216

00:45:48.850 --> 00:46:01.300

Rachel Kuykendall: Yeah, and I'm happy to. When we send the slides out we can send this resource as well. I will say it is very, very dense, and nerdy makes really good bedtime reading.

217

00:46:02.120 --> 00:46:10.250

Rachel Kuykendall: But it's a it's a really great study. Likewise I can send the key

pump water heater study out, which is equally dense.

218

00:46:11.270 --> 00:46:19.099

Rachel Kuykendall: okay. So rate-wise, there are a couple options for folks.

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00:46:19.360 --> 00:46:44.899

Rachel Kuykendall: Most customers that do not have solar. Currently, they're on a rate called E one. which is what's called a tier rate. So the more energy you use the more you pay for that energy. So you have what's called a a baseload amount, and then you have tier one and tier 2 usage beyond that.

220

00:46:45.170 --> 00:46:51.760

Rachel Kuykendall: if you are on E one and looking to electrify.

221

00:46:51.800 --> 00:47:15.690

Rachel Kuykendall: a good option for you is you can call Pg and E, and get a increase in that baseload. If you have electric heating, that is something not a lot of customers know to do. But you are eligible for that. If you have electric heating and what that does then is, you can use more energy in that baseload cheaper tier.

222

00:47:16.540 --> 00:47:33.579

Rachel Kuykendall: That said. we have a relatively new rate which is called the electric home rate, or e-elect and this generally is the most cost effective rate for folks

223

00:47:33.670 --> 00:47:37.459

Rachel Kuykendall: who have electrified either partially or fully.

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00:47:37.880 --> 00:47:49.260

Rachel Kuykendall: The way this particular rate works. It's it's kind of it's more like a time of use rate, or it should say it is a time of use right?

225

00:47:49.500 --> 00:47:54.849

Rachel Kuykendall: Where you have a fixed charge

226

00:47:54.970 --> 00:47:57.520

Rachel Kuykendall: of \$15 per month.

227

00:47:58.140 --> 00:48:07.290

Rachel Kuykendall: and then a relatively small dollar per kilowatt charge on top of

that for your usage.

228

00:48:07.440 --> 00:48:16.390

Rachel Kuykendall: This is a really great tends to be the best for folks with higher

229

00:48:17.210 --> 00:48:28.809

Rachel Kuykendall: electric usage so like, if you already had an Ev or you've electrified your space for water heater. This tends to be the best rate for you.

230

00:48:28.960 --> 00:48:37.340

Rachel Kuykendall: if you are a really really low electric user maybe a better fit for you.

231

00:48:37.380 --> 00:48:53.079

Rachel Kuykendall: So I do say, always make use of our Pg and E rate comparison tool on the website or call in, and we can do a rate analysis for you to sort of see what's best. But for about 95% of customers, this is your best bet

232

00:48:53.320 --> 00:49:07.389

Rachel Kuykendall: you do need to own. One of these technologies over here on the left to qualify for the rate plan. So that's either an electric vehicle, battery storage or a heat pond for space or water heating

233

00:49:07.460 --> 00:49:22.299

Rachel Kuykendall: to get on that rate. We do. Now also enroll online for this rate. So you can go to that pg, and e.com slash electrification homepage, and that will walk you through how to enroll in Elk online.

234

00:49:23.150 --> 00:49:49.190

Rachel Kuykendall: and then finally, very quickly, and actually, maybe in the interest of time. I will just call out some interesting things here. We do have some programmatic offerings so we do have what's called our new home program, which offers incentives for retrofits that. Remove all gas from the home that's called the California Energy smart homes program

235

00:49:49.190 --> 00:50:09.970

Rachel Kuykendall: the water saver program which I mentioned is our demand response program. And then we also have a direct install program that Esa program or energy savings assistance program that does full home electrification measures and financing options.

236

00:50:09.990 --> 00:50:27.110

Rachel Kuykendall: Really, I think your Goto resource for electrification at Pgna is this website as well as that electrification@pgnae.com and then last, but not least, if you wanna test out an induction hook top for 2 weeks

237

00:50:27.110 --> 00:50:43.370

Rachel Kuykendall: you can scan this little QR code and and get directed how to borrow that, and they'll actually mail it to you with a return package and everything so super easy. And it's it's pretty nice. I did that while I was changing out my old gas stove.

238

00:50:43.570 --> 00:50:49.389

So I'll pause there and thank you all for for the time today.

239

00:50:53.750 --> 00:50:55.300

Laura Feinstein: Thanks everybody.

240

00:50:56.220 --> 00:51:05.690

Laura Feinstein: So we have a lot of questions in the Q. And a I would like to kick it off first with

241

00:51:07.030 --> 00:51:13.970

Laura Feinstein: One here for Rachel. So who's making these predictions about gas versus electricity rates?

242

00:51:14.700 --> 00:51:18.049

Rachel Kuykendall: Oh, so that's a great question.

243

00:51:19.230 --> 00:51:38.709

Rachel Kuykendall: a lot of this. So there's multiple sources for how folks forecast. So the Cec. Does a annual forecast of long term electricity and gas usage. And that's actually how we're

244

00:51:38.710 --> 00:51:53.809

Rachel Kuykendall: required to sort of use that for like build out of capacity and and things like that. Pg, and E. Also does our own internal forecasts of projected long term gas and electric use.

245

00:51:54.020 --> 00:52:00.289

Rachel Kuykendall: But and that's what we sort of base these assumptions on

246

00:52:02.930 --> 00:52:06.030

Laura Feinstein: great and

247

00:52:07.090 --> 00:52:23.960

Laura Feinstein: This is a question for Blake which Blake actually already answered in writing, but I think it's such a good question that I'd like to talk about it. Which is, you know, the initiatives that the Ccas are doing are awesome, but the actual number of homes impacted looked relatively small.

248

00:52:24.070 --> 00:52:30.810

Laura Feinstein: So what are some of the ways for scaling those? Those offerings to more homes?

249

00:52:35.350 --> 00:52:41.949

Blake Herrschaft: Yes, it's a very good question. I'm glad I got chance to write down my thoughts on that.

250

00:52:42.140 --> 00:52:57.320

Blake Herrschaft: Definitely. I mentioned numbers like 250, and we're doing 500 or 600 rebates in a given year right now. And statewide, we really need to move that to half a million or more homes electrified per year by the early 2030 s.

251

00:52:57.350 --> 00:53:08.880

Blake Herrschaft: We really think that po it penetratively and energy. We really think that policy and programs need to work in lock step to get there. The I. The the best example of

252

00:53:09.050 --> 00:53:31.909

Blake Herrschaft: global emissions reductions on a global strategy is probably the Montreal protocol and fighting ozone depleting substances. And that was really a big global policy action. So what we're really working to do is provide the programs that enable the types of policies that the Bay Area quality management district talked about. So that means

253

00:53:31.910 --> 00:53:51.259

Blake Herrschaft: financing technical support workforce preparedness expansive low income protections, including help just installing things and covering the costs. Are, and really easy implementation are really things that need to be figured out in our perspective to enable sweeping policy up. Updates.

254

00:53:51.540 --> 00:54:11.980

Blake Herrschaft: We are working tirelessly on that. It's pretty much all I work on. And I talk to all the Ccas about it almost every week now. So we really are trying to get there by mid decade. I don't. Don't wanna make a promise of 2,025. But that's the type of goal to create the entire ecosystem to enable big policy that we're working on.

255

00:54:13.240 --> 00:54:20.319

Laura Feinstein: Yeah. And if I can add to that, you know. I wanna clarify that. I think we've been zooming in on some of the really deep

256

00:54:20.390 --> 00:54:47.569

Laura Feinstein: subsidies for low income households that that are able to reach a relatively small number of households. But there's actually a lot of other incentives that we haven't talked about. And so when you look at, especially when you start talking about the State and Federal funding. Those are much larger pools of money. Many of them are focused on low income households with big subsidies. But then there's also other incentive programs for the middle and upper income households

257

00:54:47.600 --> 00:54:53.360

Laura Feinstein: that offer smaller incentives and reach a much larger number of homes.

258

00:54:53.460 --> 00:54:58.830

But nonetheless, when you look at the even, the you know.

259

00:54:58.870 --> 00:55:23.810

Laura Feinstein: there's, I think, close to a billion dollars, for example, that the State put towards Equitable building decarbonization program, which is amazing. But when you start adding up all these budgets, even so, it's not going to be enough to subsidize everybody to make that switch to electric appliances. So we do have to think about these incentive programs is really like goosing the market.

260

00:55:23.810 --> 00:55:38.170

Laura Feinstein: so that in the long run. There's more contractors doing the work. There's more manufacturers manufacturing more heat pumps, so that over time those heat pumps start to become more cost competitive with the gas appliances on their own.

261

00:55:38.500 --> 00:55:55.949

Laura Feinstein: And that is what we've seen in the past, with things like more efficient car, you know, fuel mileage on cars and so forth, is that at the beginning they're expensive and the government offers subsidies. And then over time, they

become cost competitive with the old technology.

262

00:55:58.880 --> 00:56:00.420

Laura Feinstein: But that's a great question.

263

00:56:00.730 --> 00:56:07.309

Laura Feinstein: So there is a question here about

264

00:56:07.620 --> 00:56:09.900

Laura Feinstein: Rachel y. There's oh.

265

00:56:10.350 --> 00:56:27.160

Rachel Kuykendall: I think, Rachel, it said you said you were going to take this one for whole home electrification. How long does it take from start to finish? And what are the issues coordinating with pg, and E, oh, yeah, that's that's the one. I would. I'll paste it in the chat or Electrification guidebook, which goes sort of step by step

266

00:56:27.560 --> 00:56:32.140

Rachel Kuykendall: rather than spelling it out. Cause it's it's actually quite a sort of

267

00:56:32.390 --> 00:56:40.989

Rachel Kuykendall: Yeah, there's a lot of steps in the process so that will go over. You know what you need to each step, and and how long each step takes

268

00:56:46.780 --> 00:56:57.480

Laura Feinstein: definitely. And then I'll take this question here that the cost looks reasonable that I was showing for single family heat pumps. But what are the assumptions for? Multifamily

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00:56:57.600 --> 00:57:05.850

Laura Feinstein: so we took a look really at the scenario of a multi-family building that

270

00:57:06.180 --> 00:57:18.390

Laura Feinstein: low rise. It might be like a garden style or townhomes, and each unit has its own individual Hvac system and its own individual water heater

271

00:57:18.400 --> 00:57:41.749

Laura Feinstein: and in that scenario is pretty similar to doing a single family home swap out. I completely agree that in a lot of multifamily context. There's issues around shared heating and shared water as well as all the whole building electrification system retrofits that add a lot of costs on. I think

272

00:57:41.760 --> 00:58:03.470

Laura Feinstein: for that, we would need to take data from a different data set. Specifically, the Bayrens Multi family building, electrification retrofit data set and take a look at those kind of more complicated multifamily retrofits. So, for now don't sort of assume that the costs I have don't apply in a more complicated multi family situations.

273

00:58:03.760 --> 00:58:19.119

Laura Feinstein: And then the \$9,400 incentives. Those. I was specifically stacking incentives available for low income households. So those would be available to people who earn less than 80% of Median household income.

274

00:58:19.480 --> 00:58:26.370

Laura Feinstein: There are different incentives for the middle and upper income levels, but they do tend to be less generous.

275

00:58:30.570 --> 00:58:48.259

Rachel Kuykendall: And we have a question here. What's the reason for the long timeframe and getting approvals for Pg and E's electric upgrades. II like that. This person apologized for asking the question. No, that's that's okay. We get this question every time. And it's a totally valid question.

276

00:58:48.700 --> 00:58:52.840

Rachel Kuykendall: so why this is taking so long currently

277

00:58:52.900 --> 00:59:00.959

Rachel Kuykendall: with the wildfires. Pg, and E is investing a lot of

278

00:59:01.210 --> 00:59:09.820

Rachel Kuykendall: both budget and your resources into fire, hardening and underground.

279

00:59:09.960 --> 00:59:15.350

Rachel Kuykendall: And frankly, that is just leaving a lot less staff

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00:59:15.390 --> 00:59:18.779

Rachel Kuykendall: here as well as budget

281

00:59:18.930 --> 00:59:47.029

Rachel Kuykendall: to accommodate these big capacity projects. So what we're finding is not only is it taking longer to do these projects, but we are also having projects that shift potentially from one budget year to the next. Because of this. I am anticipating this will get sort of better in the next years with our next general rate case but a lot of it just has to do with.

282

00:59:47.090 --> 00:59:53.170

Rachel Kuykendall: There's sort of a fixed dollar amount that we get from the Public Utilities Commission

283

00:59:53.310 --> 01:00:04.489

Rachel Kuykendall: that now has to cover a lot more fire hardening than it did traditionally, which is sort of bumping a lot of the capacity budget and time.

284

01:00:09.950 --> 01:00:17.390

Laura Feinstein: We are getting close to the end. There are definitely questions remaining questions about the E electric

285

01:00:17.490 --> 01:00:28.089

Laura Feinstein: plan. So perhaps, Rachel, if you don't mind maybe writing an answer. We'll send it out in the email. When we follow up with attendees.

286

01:00:28.150 --> 01:00:42.970

Laura Feinstein: So everybody. Thank you so much for joining us. We will be sending out slides, and attempting to answer a few of these last unanswered questions. In our follow up email that you'll be getting soon.

287

01:00:43.010 --> 01:00:58.549

Laura Feinstein: And for now, Eric, thank you so much for coming and for Silicon Valley. Clean energy for sponsoring Blake and Rachel for sharing all your wisdom. From Pg and Peninsula. Clean energy, really appreciate everybody's time today. Thank you so much.