# NEEP Policy Framework Webinar Series: Cost Benefit Tests Transcript

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00:00:37.080 --> 00:00:49.140

Erin Cosgrove, NEEP: Hi everyone, my name is Erin Cosgrove, Public Policy Manager here at the Northeast Energy Efficiency Partnerships or NEEP. I'm going to get started with some introductions while we wait a couple minutes for others to join us.

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00:00:49.950 --> 00:01:04.410

Erin Cosgrove, NEEP: So this is our first policy framework webinar series this year, and today we're going to talk specifically about cost benefit tests and newest innovations in energy efficiency program areas go to the next slide please.

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00:01:12.030 --> 00:01:19.770

Erin Cosgrove, NEEP: Thank you, and so this is the first policy framework webinar in a set of three, as you can see from the slide here.

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00:01:21.210 --> 00:01:28.800

Erin Cosgrove, NEEP: Today we'll be talking about cost benefit tests and in September we're going to have a webinar on energy efficiency retrofits and then finally.

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00:01:29.160 --> 00:01:39.510

Erin Cosgrove, NEEP: We will have a webinar in December on cap-and-invest policies these webinars will also be accompanied by implementation guides which are short guides.

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00:01:40.350 --> 00:01:49.920

Erin Cosgrove, NEEP: meant to provide assistance to stakeholders regulators and other and other parties and how these policies interact with climate and equity goals.

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00:01:52.110 --> 00:01:59.220

Erin Cosgrove, NEEP: And next slide please little background on NEEP or the Northeast energy efficiency partnership before we get started.

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00:01:59.790 --> 00:02:09.720

Erin Cosgrove, NEEP: NEEP is a regional energy efficiency organization or REEO and we work to drive market transformation regionally by fostering collaboration innovation.

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00:02:10.530 --> 00:02:22.800

Erin Cosgrove, NEEP: at developing tools and disseminating knowledge and then, finally, before we get started, I also wanted to give a big thanks to our funders go to the next slide and our network of allies and state partnerships.

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00:02:24.600 --> 00:02:29.970

Erin Cosgrove, NEEP: These relationships really help to guide and develop our work and just click through the next two slides, please.

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00:02:33.390 --> 00:02:41.820

Erin Cosgrove, NEEP: And so we want to thank them before we get started, and now i'm going to turn my camera on and ask the policy team to do the same, because i'd like to introduce you to our.

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00:02:42.270 --> 00:02:50.400

Erin Cosgrove, NEEP: Policy and EM&V team, who I work with here at NEEP. So if you like, our presentation today, you can reach out to us for more questions so, Cecily if you could go ahead first.

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00:02:51.480 --> 00:02:58.920

Cecily McChalicher, NEEP: Sure thanks Erin. I'm Cecily McChalicher and I'm the Research and Analysis Manager here at NEEP. thanks and Andy.

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00:02:59.820 --> 00:03:04.230

Andy Winslow, NEEP: Hey Everyone Andy Winslow public policy associate Here at NEEP.

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00:03:05.640 --> 00:03:18.660

Erin Cosgrove, NEEP: Great and also Andy will be helping us out as we go through the webinar so you might see his voice or hear his voice or see him from time to time and if with that we will get started with the webinar So if you go to the next slide.

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00:03:22.140 --> 00:03:28.800

Erin Cosgrove, NEEP: Great so today specifically we're going to be talking about how to modify current energy efficiency practices.

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Erin Cosgrove, NEEP: to incorporate climate and equity goals by looking at how we update cost effectiveness practices metrics and portfolio design so i'll be talking about cost effectiveness practices and then we'll be highlighting a new approach to.

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00:03:43.200 --> 00:03:49.590

Erin Cosgrove, NEEP: accomplishing climate policy and goals by looking at some developments in California, so if you go to the next slide.

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00:03:51.660 --> 00:03:59.970

Erin Cosgrove, NEEP: Please, thank you, so this is a quick outline of the presentation we had a last minute change up so i'm going to start with.

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Erin Cosgrove, NEEP: A quick introduction to cost benefit tests and also an overview of how states can actually evolve their practices to incorporate climate equity and non energy benefits and then after this we're going to turn it over to.

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Erin Cosgrove, NEEP: Mohit Chhadra From the national resources Defense Council or nrdc who will talk about energy efficiency portfolio segmentation.

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Erin Cosgrove, NEEP: And how that's helped kind of evolved energy efficiency programs in California and then Adam Sheer from Recurve we'll talk about a new.

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Erin Cosgrove, NEEP: metric that total systems benefit metric which actually provides a way to measure energy generation and more granular detail and how that can help as we incorporate new climate, energy technology and then finally.

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00:04:40.590 --> 00:04:50.370

Erin Cosgrove, NEEP: We will end with 10 to 15 minutes of a Q and A session, but just to let everyone know that is attending because this is a webinar you will be muted, but we have a Q and A feature.

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00:04:50.700 --> 00:04:59.430

Erin Cosgrove, NEEP: On the bottom, that you can use to add questions throughout the presentation and also within the Q and A feature there's a feature called an up vote feature.

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00:05:00.120 --> 00:05:07.890

Erin Cosgrove, NEEP: where you can promote questions so if you go into put a question and you see the question that you already want answered you can click the like button on our.

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00:05:08.130 --> 00:05:14.910

Erin Cosgrove, NEEP: that's pictured there and it'll bump or promote the question, and when we go to answer questions at the end of the webinar will try to hit those first.

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00:05:15.300 --> 00:05:20.970

Erin Cosgrove, NEEP: And then also one last technical detail to work out is there are live captions right now running.

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00:05:21.210 --> 00:05:31.620

Erin Cosgrove, NEEP: At the bottom of your screen, but there is a CC closed caption button if you're on the web, where you can turn those captions off if you would like to so just wanted to clarify that before we get started.

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00:05:32.070 --> 00:05:37.530

Erin Cosgrove, NEEP: And with now we'll dive into energy efficiency portfolios and cost benefit tests so.

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00:05:38.670 --> 00:05:46.410

Erin Cosgrove, NEEP: To set the stage right now states are setting ambitious climate and equity policy goals and to achieve these goals, we really think that states.

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Erin Cosgrove, NEEP: need to consider altering their regulatory framework for energy efficiency and other demand response programs.

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Erin Cosgrove, NEEP: And this is because energy efficiency programs can really help in achieving state climate and equity goals.

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Erin Cosgrove, NEEP: Because they lower emissions from the building sector by lowering energy usage additionally these programs have the significant potential to reduce energy poverty and help alleviate energy.

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Erin Cosgrove, NEEP: injustices, but we have to design these programs, in order to include these goals.

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Erin Cosgrove, NEEP: So I will first touch on cost benefit tests here and how we can design those So what are cost benefit tests? Cost benefit tests.

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Erin Cosgrove, NEEP: are used to assess the cost effectiveness of energy efficiency programs and basically cost effectiveness is a

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Erin Cosgrove, NEEP: Regulatory term for how do we make sure that ratepayer investments result and benefits for customers utility systems and society at large.

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Erin Cosgrove, NEEP: Additionally, these tests can serve as a signal to program administrators and or utilities, what the state is prioritizing in their energy efficiency and other goals.

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Erin Cosgrove, NEEP: So, for example, if you look at the picture on the chart here, you can see a cost benefit breakdown and some of the benefits that we have highlighted are economic investment or reduced emissions.

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Erin Cosgrove, NEEP: But if these benefits weren't counted for in this in this image here to show a cost benefit test this program would arguably maybe not.

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Erin Cosgrove, NEEP: not pass this test it would not be considered a valuable investment for ratepayer dollars, and this is why it's important that we look at what metrics are putting these tests and how they're measured.

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Erin Cosgrove, NEEP: Next slide please.

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Erin Cosgrove, NEEP: So a quick overview of what the current state practices are when it comes to cost benefit tests so cost benefit tests were actually.

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Erin Cosgrove, NEEP: established by the California standard practice manual or the CSPM.

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Erin Cosgrove, NEEP: And this CSPM presents five tests and the three tests pictured here are kind of what I see is the foundational tests are.

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Erin Cosgrove, NEEP: they're called perspective tests and these tests focus on costs and benefits, but only from a singular perspective, so you have the utility the participant and the right payer.

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00:07:54.090 --> 00:08:09.900

Erin Cosgrove, NEEP: And when i'm saying costs and benefits, I mean cost being exchange goods being bought, or lower or higher energy bills, hiring contractors those numbers and then only from that certain perspective and then, if we next slide please.

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Erin Cosgrove, NEEP: And then the other two tests that are introduced by the CSPM kind of looked at as more holistic view, and so the first of these two tests is the total resource customer.

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Erin Cosgrove, NEEP: And this test actually looks to combine the impacts, for both the utility and the participant So you see a test that is able to capture both sides of those two sides of a program or.

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Erin Cosgrove, NEEP: A portfolio design and then on top of that, we have what's called the societal benefits test and the societal benefit test is even a step up from the TRC because it looks at impacts to society as a whole.

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Erin Cosgrove, NEEP: and societal impacts are those impacts that happen outside of the direct participant or the utility or the program administrator.

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Erin Cosgrove, NEEP: and actually if you think back from the the picture that I showed earlier societal impacts are considered economic investment and reduce emissions those metrics that helped it that helped to become beneficial.

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Erin Cosgrove, NEEP: So those are the five tests that are currently used, and it would appear, right now, that if a State has a societal cost test they're probably counting all of these factors, but.

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Erin Cosgrove, NEEP: Our research has actually shown that with the SCT, and sometimes even the TRC they kind of pick and choose the metrics so while it appears that, as a State might be including all these benefits. it actually might not be.

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Erin Cosgrove, NEEP: true. So how do we make sure that states are actually including these metrics and policies and their tests? next slide please.

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Erin Cosgrove, NEEP: At NEEP we have proposed and actually if you reference the national standard practice manual which goes into way more detail than i'll be able to do here.

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Erin Cosgrove, NEEP: They also have a test, such as this, but it's but we've proposed a jurisdiction specific test or a test from the regulatory perspective.

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Erin Cosgrove, NEEP: it's important to consider making a test, from this perspective, because these tests can actually be designed to accommodate state needs.

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Erin Cosgrove, NEEP: State policies and stakeholder input, so the test is more encompassing than just the singular participant utility and ratepayer but also can be more specific, for the state than the societal cost test.

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Erin Cosgrove, NEEP: And it's also able to actually reflect the priorities and the responsibilities of regulators, because they also can combine energy, environmental and equity priorities.

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Erin Cosgrove, NEEP: And this is really because through the process of designing the test States are able to pick and choose from these buckets of policy or metrics and come up with something that reflects what what is their state goals and so.

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Erin Cosgrove, NEEP: Next slide please.

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Erin Cosgrove, NEEP: And so, at NEEP we've actually developed a guide for how states can start this journey because.

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Erin Cosgrove, NEEP: Through the research we realized that there's really two important areas to establishing a jurisdictional cost benefit test.

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Erin Cosgrove, NEEP: And that is a clear process and also identifying metrics that can meet policy that doesn't really normally fall into.

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Erin Cosgrove, NEEP: The energy realm. So first i'll go over why process is so important, so currently right now we'll have.

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Erin Cosgrove, NEEP: Agencies identify cost benefit test, sometimes in a public proceeding or in the energy efficiency framework.

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Erin Cosgrove, NEEP: But they will then go into maybe different proceedings or the test or the factors might be debated in other areas, so.

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Erin Cosgrove, NEEP: There is a general test that we know a State uses, but the inputs or the metrics might not be as transparent.

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Erin Cosgrove, NEEP: So what we want to make sure is that the inputs and the metrics and what's important is transparent and you do that through making a clear process.

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Erin Cosgrove, NEEP: And this provides opportunity for meaningful participation and it allows for parties to identify what is valued in the state, energy and environmental policy and how it should be valued.

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Erin Cosgrove, NEEP: And finally, it also brings in different perspectives to inform these conversations, which can really help as policies change and we've and we've basically broken out for different.

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Erin Cosgrove, NEEP: For different areas that this process should fall into, and that is outlining the stakeholder input and the public review process identifying the relevant state environment and energy policies.

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Erin Cosgrove, NEEP: Aligning policies with metrics in this test which i'm going to go into in just a minute, and finally, after the program is implemented via the test review the test the inputs modify and make sure that it stays within state.

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00:12:25.110 --> 00:12:38.730

Erin Cosgrove, NEEP: Within the state goals and that it's successful and so that is kind of a quick process overview or very quickly. Now I will go into how a state can actually incorporate the metrics or the policies of climate.

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Erin Cosgrove, NEEP: equity and energy into their cost benefit test through metrics so next slide please.

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Erin Cosgrove, NEEP: So the first thing that I want to talk about that's important that we consider when we look at cost benefit tests is societal benefits and.

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Erin Cosgrove, NEEP: This is important because a first step, and really aligning energy policy with climate and equity is acknowledging that the impacts of our energy system, reach beyond the utility the participant and the ratepayer.

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Erin Cosgrove, NEEP: We know that every dollar invested in these programs impacts them in different ways images that are pictured on the screen.

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Erin Cosgrove, NEEP: But it's not really common practice to include these benefits or costs because they haven't been considered a key decision point and energy policy, just yet.

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Erin Cosgrove, NEEP: But it's important that we start to change this, because without acknowledging these we actually might be missing out on cost effective climate focused innovative energy solutions.

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Erin Cosgrove, NEEP: And just to give you kind of an idea, right now, I think we found about 10 states that really do find a way to measure these impacts, but we know that all of the States actually.

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Erin Cosgrove, NEEP: provide these impacts and these impacts can be provided through program so.

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Erin Cosgrove, NEEP: it's important first and foremost that we think about how we can put societal impacts into the cost effectiveness test, so that we start to understand that energy impacts more than just the utility system next slide please.

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Erin Cosgrove, NEEP: The other policy area that we discussed in our implementation guide to.

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Erin Cosgrove, NEEP: To put into test is equity and that's because that history shows that without thoughtful intervention energy programs can actually perpetuate inequity.

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Erin Cosgrove, NEEP: and create additional economic hardship for already overburdened communities.

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Erin Cosgrove, NEEP: And it's important to include equity metrics when designing programs, so that, to the extent practicable, we can kind of start to account and work to prevent these impacts.

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Erin Cosgrove, NEEP: But sometimes when you're implementing equity policy there's a barrier with how do we measure these impacts.

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Erin Cosgrove, NEEP: And there's two approaches that NEEP has identified that states could take to incorporate costs and benefits identified on this slide.

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Erin Cosgrove, NEEP: and the first is that you can identify equity poly policy via non energy benefits so some specific non energy benefits that some equity specific non energy benefits are those.

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00:14:57.870 --> 00:15:09.090

Erin Cosgrove, NEEP: pictured on the slide here, and we know for environmental justice and overburdened communities, the negative and positive impacts of these programs are often multiplied so one way to just make sure that we are acknowledging that.

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Erin Cosgrove, NEEP: is just a design cost benefit test by utilizing specific and measurable additional metrics within these areas that are able to highlight the benefits and the cost.

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Erin Cosgrove, NEEP: And this is able to make sure that these impacts are included in cost effectiveness tests another way that states can look to incorporate equity policy into their cost effectiveness test is by doing.

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Erin Cosgrove, NEEP: Is by using what we call an adder so an adder is just a percentage applied to metrics that are difficult or costly to monetize.

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Erin Cosgrove, NEEP: And an equity adder can actually quantify impacts without needing to take time to identify precise numbers for each and a couple states have done this One example is Vermont which has actually adopted a 15%.

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Erin Cosgrove, NEEP: adder that accounts for benefits such as reducing energy burden comfort for more controlled indoor climates and investment in homes, specifically in equity areas.

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Erin Cosgrove, NEEP: And, and that concludes our equity policy metrics if you could go to the next slide please yes.

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Erin Cosgrove, NEEP: The final area that we've identified in our implementation guide that we think is valuable for States to include in cost benefit test is climate policy, and that is really because.

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Erin Cosgrove, NEEP: state climate plans discuss a different electrical grid than the one that exists now, and we've kind of identified three different buckets that States go after climate policy.

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Erin Cosgrove, NEEP: And that's lowering emissions, lowering energy use, and incorporating new clean energy technology and it kind of depends on the state.

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Erin Cosgrove, NEEP: How they're going to go about this, because they can determine how much they want to lower their energy use, how much they want to integrate large scale renewables.

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00:16:47.490 --> 00:17:00.720

Erin Cosgrove, NEEP: And or how much they want to do a mix of all three and so, it is important that right now we start to determine a way to include a metric or metrics that can start to account for.

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Erin Cosgrove, NEEP: This policy and also account for the impacts that may not have been considered before in climate policies such as greenhouse gas emissions.

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Erin Cosgrove, NEEP: So we've identified three different ways that state can start to incorporate climate policy into their.

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Erin Cosgrove, NEEP: cost benefit test and the first is by using something what's called a fuel neutral metric so a fuel neutral metrics such as MM BTU you are a million British thermal units.

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Erin Cosgrove, NEEP: is a measure of energy that considers gas, electricity and other fuels alongside one another.

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Erin Cosgrove, NEEP: So currently energy saving goals are kind of separated by source, such as gas or electric, but we know for decarbonization and climate efforts we're aiming for, reduce for reducing energy in all sectors.

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00:17:45.360 --> 00:17:56.400

Erin Cosgrove, NEEP: And so, if regulators use a fuel neutral metric they can actually just focus on cost effective strategies and not worry about generation and focus on what's best for.

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Erin Cosgrove, NEEP: cost for the consumers, the second metric that States can use to incorporate climate policies.

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Erin Cosgrove, NEEP: into their cost effectiveness test is a metric that actually values, the impact of GHG emissions. So what does admitting a ton of carbon or other greenhouse gas cost.

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Erin Cosgrove, NEEP: And how much would we pay to have that ton not admitted and one such metric that is used in a couple of states, now is the social cost of carbon.

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Erin Cosgrove, NEEP: And this metric properly values, the cost of admitting pollutants by quantifying the harms of emissions in dollars, and this can hold programs accountable for these emissions and incentivize program administrators to design portfolios that do not therefore have these emissions.

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Erin Cosgrove, NEEP: And then the final metric that we've identified to help integrating climate policy is.

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Erin Cosgrove, NEEP: Something called the total lifetime benefits and i'm going to give a quick overview and then this is something that Mohit and Adam will.

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Erin Cosgrove, NEEP: touch on in their presentation, but this total lifetime benefit metric is a new metric that looks to incorporate renewable smart appliances electric vehicles and other new technology and that's because.

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Erin Cosgrove, NEEP: It uses very granular data to identify costs and benefits and presents a new way to.

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Erin Cosgrove, NEEP: That is able to compare clean energy technology to pipes and wires investments and prices energy based on how and when it is generated.

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Erin Cosgrove, NEEP: while also considering climate impacts and so that concludes my overview of the climate policy metrics but i'm excited to say that now i'm going to pass it over and continue the discussion of how we can embed climate policy into other metrics.

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00:19:37.320 --> 00:19:48.690

Erin Cosgrove, NEEP: By I'm going to say i'm call this taking a half step back, because I kind of just did a deep dive into how we customize a cost benefit test to accommodate multiple state objectives and metrics.

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00:19:49.080 --> 00:20:03.810

Erin Cosgrove, NEEP: But there are also some issues with attempting to put all of these goals into one test so i'm now going to hand it over to Mohit Chhabra from the national resources Defense Council to talk about how California has gone after tackling these goals.

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00:20:06.630 --> 00:20:18.750

Mohit Chhabra, NRDC : Good afternoon to all of you in the east coast. I am Mohit I work with nrdc as part of our western energy team and i'm here to talk about.

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Mohit Chhabra, NRDC : Better lighting energy efficiency portfolios, but policy goals and that's important in the context of this conversation, because when we talk cost benefit analysis two questions that.

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Mohit Chhabra, NRDC : Two foundational questions that we need to answer is from whose perspective, are we doing this and to what end and in answering those questions, we can figure out how to connect policy goals were how we measure programs so next slide please.

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00:20:50.940 --> 00:21:03.030

Mohit Chhabra, NRDC : So energy efficiency has many requirements, these days, and they're growing and here's an example of some of these requirements, you use energy efficiency to meet load growth you.

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00:21:04.830 --> 00:21:06.600

Mohit Chhabra, NRDC : use energy efficiency to.

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Mohit Chhabra, NRDC : conduct programs conduct research and emerging technologies. you use energy efficiency to administer low and middle income programs trained workforce is like transformation and so on.

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00:21:20.820 --> 00:21:23.040

Mohit Chhabra, NRDC : And all of these requirements next slide.

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Mohit Chhabra, NRDC : Are there to achieve sometimes different policy objectives so sometimes energy efficiency is a grid resource sometimes it is seen from market development, equity, and so on.

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Mohit Chhabra, NRDC : And while this has been happening and i'm pretty certain this isn't a California specific situation other states have these different asks as well next slide.

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Mohit Chhabra, NRDC : Some changes have been a foot so cost effective measures of the past have either become code or are standard practice right like residential led lighting.

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Mohit Chhabra, NRDC : In California, the climate goals have gotten more stringent.

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Mohit Chhabra, NRDC : importance of equity in the clean energy transitions recognized.

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00:22:15.090 --> 00:22:23.670

Mohit Chhabra, NRDC : And while this has been happening programs, at least in California have struggled to meet cost effective standards, while.

136

00:22:25.380 --> 00:22:31.560

Mohit Chhabra, NRDC : completing all these policy objectives so we've seen programmatic budgets dwindle next slide.

137

00:22:33.330 --> 00:22:43.650

Mohit Chhabra, NRDC : So the problem that we were faced in California still are, to some extent is the disconnect between the policy objectives of the state.

138

00:22:44.250 --> 00:23:03.510

Mohit Chhabra, NRDC : and energy efficiency portfolio constraints juggling so many different program asks. While also maximizing energy savings and maintaining a cost effective portfolio primarily measured for energy efficiency as an energy resource and that not too perfectly.

139

00:23:04.530 --> 00:23:18.750

Mohit Chhabra, NRDC : is very hard, so you need a way to guide investment in the right amount and right type of energy efficiency initiative so that you do three things here to meet near and long term energy needs.

140

00:23:19.980 --> 00:23:28.410

Mohit Chhabra, NRDC : climate goals for states that have them and then enhance equity and social welfare, so this requires a different structure next slide please.

141

00:23:30.720 --> 00:23:38.910

Mohit Chhabra, NRDC : So policy solution that we proposed in California was to cleave and reorganize so break up the energy efficiency portfolio.

142

00:23:39.780 --> 00:23:53.340

Mohit Chhabra, NRDC : into three sub portfolios The first one is resource, energy efficiency, so this is that part of the portfolio, where the primary intent is to save energy and carbon cost effective way.

143

00:23:55.800 --> 00:24:01.710

Mohit Chhabra, NRDC : And existing cost effectiveness tests that Erin described are best suited to this.

144

00:24:02.760 --> 00:24:07.530

Mohit Chhabra, NRDC : And when we design cost effectiveness for this, we need to be sure to.

145

00:24:08.610 --> 00:24:25.770

Mohit Chhabra, NRDC : Have the cost effectiveness test best reflect state policy and create all resources equally by that I mean the total resource costs test, for example, includes both customer cost to buy an energy which the measure.

146

00:24:28.590 --> 00:24:42.900

Mohit Chhabra, NRDC : costs incurred by the utility but mostly includes on the benefits of the utility system and any other policy that utilities are mandated to meet, so the test needs to be balanced.

147

00:24:44.400 --> 00:24:50.310

Mohit Chhabra, NRDC : for energy efficiency and also treat energy efficiency, the same as supply side resources.

148

00:24:51.840 --> 00:24:52.710

Mohit Chhabra, NRDC : The second.

149

00:24:53.790 --> 00:25:06.510

Mohit Chhabra, NRDC : bucket is long term market transformation, and this is that transfer of energy efficiency, where you aren't really going for near term benefits you're investing in future.

150

00:25:07.140 --> 00:25:18.240

Mohit Chhabra, NRDC : benefit so that could include research emerging technology programs to bring technologies in the market and so on, so this is critical it's been done a lot but.

151

00:25:19.020 --> 00:25:32.640

Mohit Chhabra, NRDC : it's not best reflected as a what have you done for me lately resource, energy efficiency and the final bucket is the equity bucket This is where you want to provide non energy benefits, where.

152

00:25:33.360 --> 00:25:49.050

Mohit Chhabra, NRDC : Energy and climate goals is an objective, but, on the one of multiple objectors the other objectives really are to enhance welfare provide measures that improve health comfort safety and.

153

00:25:50.220 --> 00:26:01.440

Mohit Chhabra, NRDC : These non energy benefits we've talked about them for a while, for years in the energy efficiency space, but they're really hard to quantify consistently.

154

00:26:02.340 --> 00:26:12.060

Mohit Chhabra, NRDC : And there's a lot of heterogeneity variance within these benefits so some research that's pertinent to certain customer class in.

155

00:26:12.720 --> 00:26:23.010

Mohit Chhabra, NRDC : One state isn't often applicable to the other so it's really hard to define and develop cost effectiveness test that holistically get at this next slide please.

156

00:26:25.620 --> 00:26:36.420

Mohit Chhabra, NRDC : Part of the proposal was to for each sub portfolio design policy or objective aligned regulation to develop goals and budgets determine cost effectiveness tests.

157

00:26:36.990 --> 00:26:46.020

Mohit Chhabra, NRDC : tracking metrics implementation strategies and evaluation guidelines So what does that mean for each of these three buckets next slide please.

158

00:26:48.270 --> 00:26:59.010

Mohit Chhabra, NRDC : So for resource, energy efficiency, those that are primary intend to save energy and carbon we pushed for the metric that Adam is going to explain next the total systems benefit.

159

00:26:59.760 --> 00:27:10.050

Mohit Chhabra, NRDC : And this really is predicated on accurate avoided costs for a region and in California, the avoided cost of developed and they're tied to.

160

00:27:10.620 --> 00:27:24.870

Mohit Chhabra, NRDC : Our client a grid of the future and happy to talk more details at some point about that offline. to have our ones and include carbon valuations that are aligned with where our grids going.

161

00:27:26.190 --> 00:27:26.760

Mohit Chhabra, NRDC : and

162

00:27:28.020 --> 00:27:31.530

Mohit Chhabra, NRDC : For long term market transformation programs.

163

00:27:32.640 --> 00:27:45.900

Mohit Chhabra, NRDC : The cost effectiveness tests, evaluation and such should take a longer term view so investing in this initiative, maybe a 10,15 or 20 year.

164

00:27:47.190 --> 00:28:08.010

Mohit Chhabra, NRDC : prospect and over that time horizon, what are the total benefits that you get and and a good example of how this is done is in the Northwest there's the Northwest energy efficiency

alliance that has some really good policy for how to deal with long term market transformation programs.

165

00:28:09.660 --> 00:28:24.060

Mohit Chhabra, NRDC : Finally, with the equity bucket where we landed was it's really hard to come up with a quantitative test and what you're trying to achieve is a lot of times a little outside the bounds of.

166

00:28:25.440 --> 00:28:39.840

Mohit Chhabra, NRDC : Electric sector or energy sector customer economics, you really want to give non energy benefits enhance welfare, so the key question for policymakers here to answer is how much of.

167

00:28:43.350 --> 00:28:54.330

Mohit Chhabra, NRDC : Energy customer budget should be spent on these activities and how to maximize the spending of that budget, so the system that we developed or proposed was to.

168

00:28:55.500 --> 00:29:15.480

Mohit Chhabra, NRDC : come up with the budget start a inclusive process with communities to figure out what your equity metrics would be and then figure out a way for the programs to spend their budget to maximize on those metrics as opposed to a pass fail cost effectiveness.

169

00:29:16.500 --> 00:29:23.640

Mohit Chhabra, NRDC : This is more of a view of let's figure out what our equity metrics are and then that's best get them next slide please.

170

00:29:26.370 --> 00:29:27.300

Mohit Chhabra, NRDC : The PUC.

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00:29:28.440 --> 00:29:39.450

Mohit Chhabra, NRDC : Their decision listed here they they adopted a lot of these and what they did was they divided the existing energy efficiency portfolio into the resource portfolio.

172

00:29:40.680 --> 00:29:49.800

Mohit Chhabra, NRDC : And an equity and market support portfolio, so the resource portfolio that the cost effectiveness schools have traditionally here still apply.

173

00:29:50.460 --> 00:30:08.280

Mohit Chhabra, NRDC : For the equity and market support portfolio they limited the budget to 30% of the total portfolio budget and initiated a process to start figuring out metrics to for equity and market support, so we look forward to participating in that.

174

00:30:09.360 --> 00:30:20.820

Mohit Chhabra, NRDC : And this sub portfolio is incremental to in California, we have a energy savings assistance program that's for specific lower income customers.

175

00:30:21.540 --> 00:30:33.990

Mohit Chhabra, NRDC : And so, this will be incremental to that and the Commission has also initiated a separate process to develop a long term market transformation portfolio that's underway, and you know this decisions publicly available, and you can go through that.

176

00:30:35.190 --> 00:30:36.120

Mohit Chhabra, NRDC : Next slide please.

177

00:30:37.500 --> 00:30:47.850

Mohit Chhabra, NRDC : And that's all I got for you today, here are some links to the PUC decision and NRDC proposals that inform the decision and our blog that.

178

00:30:48.900 --> 00:30:53.160

Mohit Chhabra, NRDC : Is a shorter succinct version of our proposal, thank you.

179

00:30:58.290 --> 00:31:09.720

Erin Cosgrove, NEEP: Thank you so much for that, yes, Adam Sheer from recur will be next, and I just want to remind everyone that if you have any questions, please feel free to pop them in the Q amp a section, and we will answer them hopefully at the end.

180

00:31:11.520 --> 00:31:19.980

Adam Scheer, Recurve : Thanks Erin yeah I want to say, thanks to you Erin and the NEEP team it's nice to meet you here on this webinar and I really appreciate the chance to.

181

00:31:20.760 --> 00:31:26.220

Adam Scheer, Recurve : You know, address this this audience, I want to say congratulations also to Mohit just right out the gate.

182

00:31:27.180 --> 00:31:37.920

Adam Scheer, Recurve : You know, he and, in particular, along with his colleagues at NRDC had been pushing for a lot of common sense solutions in the California energy efficiency portfolio and.

183

00:31:38.490 --> 00:31:45.660

Adam Scheer, Recurve : we're seeing some of that bear fruit, but it's been years in the making, and it really just shows how persistence is is a necessary element in our.

184

00:31:46.320 --> 00:31:49.350

Adam Scheer, Recurve : You know our our industry that tends to be like the Titanic sometimes.

185

00:31:49.950 --> 00:31:58.680

Adam Scheer, Recurve : So i'll talk a little bit about why some of these policy changes are important in California and and how others can learn from them and just kind of frame.

186

00:31:59.160 --> 00:32:08.160

Adam Scheer, Recurve : Policy and regulation around more common sense principles that are aligned with today's goals of energy efficiency portfolios not past goals present.

187

00:32:08.970 --> 00:32:14.940

Adam Scheer, Recurve : per se, so one of the things I always think about when i'm.

188

00:32:15.300 --> 00:32:22.530

Adam Scheer, Recurve : Confronted with this question of cost effectiveness and goals is my time at Pacific gas and electric company, so I spent five years at pg&e.

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00:32:22.800 --> 00:32:28.710

Adam Scheer, Recurve : In there EM&V (Evaluation Measurement and Verification) team and then their programs team and their policy team, and I saw it firsthand how.

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00:32:29.550 --> 00:32:35.700

Adam Scheer, Recurve : The goals and the cost effectiveness requirements of the portfolio were misaligned for a long time.

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00:32:36.090 --> 00:32:45.480

Adam Scheer, Recurve : And that left us with very difficult decisions where oftentimes we knew we were making decisions that weren't necessarily aligned with policy goals.

192

00:32:45.720 --> 00:32:56.100

Adam Scheer, Recurve : But we're constrained in our decision making, because of other requirements like cost effectiveness and and when we had a mismatch of those objectives.

193

00:32:56.670 --> 00:33:07.470

Adam Scheer, Recurve : We we really had to strike some some deals with the devil, so to speak, for instance, because equity was tangled up in the rest of the portfolio, but wasn't valued appropriately.

194

00:33:08.220 --> 00:33:19.110

Adam Scheer, Recurve : We oftentimes had to devote less money toward those kinds of programs because they weren't cost effective, for example, so the big the big victory in these.

195

00:33:19.710 --> 00:33:31.890

Adam Scheer, Recurve : goal alignment with the total systems benefits which i'll talk about in this presentation is that now we have goals that are more aligned with the policy objectives and can be valued accordingly.

196

00:33:33.120 --> 00:33:41.880

Adam Scheer, Recurve : And instead of having like annual kWh goals, now we have a goal that is more aligned with the benefits and the cost effectiveness equation itself.

197

00:33:42.120 --> 00:33:53.910

Adam Scheer, Recurve : So there's two big pillars of the Energy Efficiency portfolio and how its measured or more aligned now and again that's in large part thanks to Mohit and the team at the NRDC and they're good work, so we can go to the next slide.

198

00:33:55.980 --> 00:34:02.550

Adam Scheer, Recurve : So I just wanted folks to think a little bit about you know, for those of you who've been in the industry, for a long time.

199

00:34:03.300 --> 00:34:08.850

Adam Scheer, Recurve : Think back a decade, you know in 2011 what do we really care about in our energy efficiency portfolios.

200

00:34:09.660 --> 00:34:15.240

Adam Scheer, Recurve : You know I wasn't even in the industry at this point by joined, maybe in 2014 But even at that point.

201

00:34:15.720 --> 00:34:25.860

Adam Scheer, Recurve : When I came to pg&e we were focused predominantly on annual energy efficiency savings goals so annual kWh annual terms how much did we save, did we meet our goals.

202

00:34:26.310 --> 00:34:33.540

Adam Scheer, Recurve : and cost effectiveness was maybe an ancillary consideration, but it was pretty far down the list of things that we really cared about.

203

00:34:33.960 --> 00:34:46.470

Adam Scheer, Recurve : And, in large part that was because cost effectiveness wasn't a barrier in in the portfolio, we had lots of sort of low hanging fruit with with lighting and CFL and then later LEDs that can kind of.

204

00:34:47.040 --> 00:34:59.520

Adam Scheer, Recurve : hold the rest of the portfolio of float so we could do things like deeper decarbonization with building retrofits and workforce, training and the kinds of things that we all know, we need to do.

205

00:34:59.940 --> 00:35:09.990

Adam Scheer, Recurve : In order to set the foundation for long term decarbonization and and load management like mo had talked about you know you can't get there with LEDs alone.

206

00:35:11.580 --> 00:35:18.870

Adam Scheer, Recurve : If you fast forward to 2021 you can click forward then look at our goals, now, and this is just my you know super official ranking but.

207

00:35:19.470 --> 00:35:24.960

Adam Scheer, Recurve : You know the annual energy efficiency savings goals like how much annual kWh did you change.

208

00:35:25.410 --> 00:35:34.380

Adam Scheer, Recurve : Especially in a place like California, where you have the duck curve that really makes it so a kWh saved during the middle of the day is very, very different than during the peak period.

209

00:35:35.040 --> 00:35:41.250

Adam Scheer, Recurve : It you know those objectives just aren't on paper only anymore, really.

210

00:35:41.670 --> 00:35:50.100

Adam Scheer, Recurve : So what is our biggest goal now it's really decarbonization and then it's grid reliability and security and then it's probably equity.

211

00:35:50.430 --> 00:35:54.840

Adam Scheer, Recurve : And then you and then, how do you get there, where you get there through electrification demand flexibility.

212

00:35:55.170 --> 00:36:02.310

Adam Scheer, Recurve : And then you finally get down to cost effectiveness and annual goals and things like that they're just less important than than I think they used to be.

213

00:36:02.760 --> 00:36:15.810

Adam Scheer, Recurve : So we really need portfolio goals that align and cost effectiveness policy that aligns with what we actually care about in in today's world so that's where this total systems benefits metric comes in, if you go to the next slide.

214

00:36:16.950 --> 00:36:30.210

Adam Scheer, Recurve : The CPC to their credit has for a long time, had a number of value streams that are represented in their avoided cost calculator, and this is essentially what determines the benefits in the cost effectiveness calculation.

215

00:36:30.720 --> 00:36:37.200

Adam Scheer, Recurve : And there are a number of benefits that are represented here, I wouldn't say it's comprehensive to align with all of the policy objectives.

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00:36:37.800 --> 00:36:49.290

Adam Scheer, Recurve : But we see things like not only energy and sort of the you know cost of fuel represented, but we also see things like the GHG adder to.

217

00:36:49.710 --> 00:36:58.140

Adam Scheer, Recurve : To make sure that we're valuing the GHG savings accordingly and how they align with policy objectives that even goes beyond cap and trade.

218

00:36:58.710 --> 00:37:03.390

Adam Scheer, Recurve : Work you know in California, we have a cap and trade policy already in place for managing GHG.

219

00:37:03.810 --> 00:37:15.930

Adam Scheer, Recurve : And then we also have grid factors like capacity transmission distribution, all that is represented here, and then even lately we've added refrigerant so high, global warming potential gases that programs can address.

220

00:37:16.590 --> 00:37:27.000

Adam Scheer, Recurve : refrigerants, then you can have a big impact, especially in short term global warming, you know issues with some of these high GHG refrigerants.

221

00:37:27.780 --> 00:37:32.940

Adam Scheer, Recurve : I will say just the caveat that we haven't yet worked in refrigerants and i'll talk about that in a moment.

222

00:37:33.780 --> 00:37:41.940

Adam Scheer, Recurve : But, nonetheless, we have a number of factors here not exactly comprehensive, you know you don't see equity in this list, but that's one of the reasons why it's important.

223

00:37:42.210 --> 00:37:54.750

Adam Scheer, Recurve : That we can now break off equity into a separate portfolio and say you know we're not going to force the equity portfolio itself to make to meet a certain cost effectiveness threshold so we're basically saying.

224

00:37:55.380 --> 00:38:08.010

Adam Scheer, Recurve : cost effectiveness can be addressed in part by portfolio design, where do we need to be cost effective, where is this kind of thing relevant and where are other policy objectives, maybe more paramount, so we can go to the next slide.

225

00:38:09.840 --> 00:38:10.770

Adam Scheer, Recurve : This is how.

226

00:38:11.880 --> 00:38:21.270

Adam Scheer, Recurve : These avoided costs or these value streams are represented when you look at just an average daily load profile, so this is like an average daily.

227

00:38:21.870 --> 00:38:32.130

Adam Scheer, Recurve : profile of the avoided cost so if you just had a flat savings curve, then this is how you would accumulate value from that savings profile.

228

00:38:32.520 --> 00:38:42.330

Adam Scheer, Recurve : And all this is on a marginal basis, so we can talk a little bit more about that if folks have questions but it's basically the concept of what is the next megawatt hour, you need to put on the grid.

229

00:38:42.630 --> 00:38:48.270

Adam Scheer, Recurve : And what is the cost associated with that because we're all working on the margins with with energy efficiency and demand management.

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00:38:48.870 --> 00:38:52.800

Adam Scheer, Recurve : And you can see, you know, two things are very readily apparent one.

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00:38:53.190 --> 00:39:05.940

Adam Scheer, Recurve : Is that, in the middle of the day, we have a dip in avoided cost and that's reflective of the fact that in California, we have a lot of solar coming online a lot of renewables and in the middle of the day, oftentimes now we're even curtailing renewable energy.

232

00:39:06.570 --> 00:39:16.920

Adam Scheer, Recurve : And then, in the evening we especially in the summertime we have very high avoided costs, so if I save a kilowatt hour at 7pm or 8pm.

233

00:39:17.520 --> 00:39:32.820

Adam Scheer, Recurve : it's worth five times more than if I save a kilowatt hour at 11am, for example, so this fat is one of the reasons why, having annual kWh savings goals makes very little sense.

234

00:39:33.840 --> 00:39:40.170

Adam Scheer, Recurve : it's really, what are we getting out of that kilowatt hour, are we getting the GHG, the global warming.

235

00:39:41.010 --> 00:39:48.210

Adam Scheer, Recurve : gases are we getting you know things like methane avoided because of that, or we or are we just curtailing our solar power.

236

00:39:48.600 --> 00:40:04.650

Adam Scheer, Recurve : And that's what's reflected in avoided cost curve like this, so it's really important now that we align given this reality when we're saving energy, with the goals of the portfolio, not just the cost effectiveness metric where this is automatically sort of incorporated in the calculation.

237

00:40:05.850 --> 00:40:17.010

Adam Scheer, Recurve : So one of the things I want to also say is this is just the electric of what it costs there's also the gas avoided costs that I won't talk about today just for time constraints, so we can go to the next slide.

238

00:40:18.450 --> 00:40:18.930

Adam Scheer, Recurve : Now.

239

00:40:19.950 --> 00:40:30.600

Adam Scheer, Recurve : One of the things that is that actually holds the portfolio back is not just what's the policy around cost effectiveness of course it's how are you implementing that policy.

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00:40:31.080 --> 00:40:39.750

Adam Scheer, Recurve : And in order to implement a policy, you have to have tools literally computational tools to run cost effectiveness calculations, for example, and.

241

00:40:40.230 --> 00:40:45.270

Adam Scheer, Recurve : California actually has a very good tool it's called the cost effectiveness tool, the CET as we call it.

242

00:40:46.080 --> 00:40:59.790

Adam Scheer, Recurve : But that has it's it's very difficult for the tooling to keep pace with the policy and we've seen a number of instances where the tooling itself or the computational tools themselves.

243

00:41:00.150 --> 00:41:12.720

Adam Scheer, Recurve : Have restrained policy either policy doesn't get implemented or gets implemented in a very delayed fashion or it inhibits policy from being created in the first place, and just as an example to this.

244

00:41:13.680 --> 00:41:18.810

Adam Scheer, Recurve : In in California, we now are mandated to work in.

245

00:41:19.320 --> 00:41:34.530

Adam Scheer, Recurve : refrigerants avoided, you know refrigerant emissions into the cost effectiveness calculation and that's been on that's been the case for years now, but we haven't yet incorporated that into the cost effectiveness tool so nobody can actually do this.

246

00:41:35.640 --> 00:41:47.850

Adam Scheer, Recurve : same thing with load shapes right now, you know if you go back a slide Andy the load shape where you're saying you know where are you saving energy, when are you saving energy.

247

00:41:48.780 --> 00:41:58.890

Adam Scheer, Recurve : It really, really impacts, how much your program is going to be valued if you're saving a lot of energy in the evening time versus in the middle of the day, then you have a much more.

248

00:41:59.850 --> 00:42:14.640

Adam Scheer, Recurve : cost effective program but right now in California, at least, all we can do in the cost effectiveness tooling is to incorporate preset load shapes so load shapes that have already been determined for things like commercial lighting or things like.

249

00:42:16.860 --> 00:42:22.260

Adam Scheer, Recurve : HVAC systems, whatever it might be but here's here's the issue if i'm an implementation.

250

00:42:22.530 --> 00:42:34.290

Adam Scheer, Recurve : And I want to optimize the cost effective effectiveness of my program or finding utility and I want to optimize the cost effectiveness of my portfolio that I want to encourage people to save energy in the evening.

251

00:42:34.950 --> 00:42:47.220

Adam Scheer, Recurve : So take a smart thermostat as an example when I installed that smart thermostat the way the portfolio works right now is I get a pre determined load shape impact from that smart thermostat.

252

00:42:48.240 --> 00:43:01.980

Adam Scheer, Recurve : But so if i'm an implement or I get rewarded for installing a whole bunch of thermostats but it doesn't even matter if I program then because i'm just cleaning a load shape and i'm claiming a kWh savings value associated with that.

253

00:43:02.490 --> 00:43:20.520

Adam Scheer, Recurve : But wouldn't it be nice if we could say well let's take the measured load shape impact that we're actually seeing and apply it to the cost effectiveness calculation and we now have the ability to do this, but we need the tooling to catch up, so if we go forward to a slide.

254

00:43:21.630 --> 00:43:28.230

Adam Scheer, Recurve : One of the things that we've done is to actually put together a set of open source cost effectiveness tools we call it FLEX value.

255

00:43:28.620 --> 00:43:34.980

Adam Scheer, Recurve : I won't talk a lot about it today, but needless to say, this is a the Open Source model is something we're a fan of.

256

00:43:35.730 --> 00:43:42.600

Adam Scheer, Recurve : Because, then the Community can update these tools and create versions, that the regulator can then approve.

257

00:43:42.930 --> 00:43:53.280

Adam Scheer, Recurve : And we don't have to wait for a lengthy contracting process to take place, or you know we don't want to wait for a lot of QAQCs on the part of a regulator.

258

00:43:53.490 --> 00:44:05.820

Adam Scheer, Recurve : But we can just say look, the Community has access to these Open Source tools we can verify them, for instance, if we wanted to work in the refrigerant avoided costs, we can now do that and and FLEX value.

259

00:44:06.180 --> 00:44:19.380

Adam Scheer, Recurve : The CPC can or regulator can verify that they've been that that has been done properly, and then the tooling is available to everybody to perform cost effectiveness calculations and to model portfolios accordingly, so if you go forward.

260

00:44:20.040 --> 00:44:26.700

Adam Scheer, Recurve : A slide i'll just give you one quick example, this is a portfolio that we actually measured the upper.

261

00:44:27.300 --> 00:44:34.620

Adam Scheer, Recurve : Three panels of this graph are the load shape impacts that this program now, this was like a commercial grocery store Program.

262

00:44:35.160 --> 00:44:40.650

Adam Scheer, Recurve : And it was predominantly lighting and then those three panels at the top, or the summer.

263

00:44:41.130 --> 00:44:52.770

Adam Scheer, Recurve : shoulder and winter load shape impacts that this program had in those bottom three panels are the avoided cost per are the benefits and the cost effectiveness calculation that we calculate with with these Open Source tools.

264

00:44:53.340 --> 00:45:02.580

Adam Scheer, Recurve : And you'll you'll notice that it's a little chaotic, but overall it's a pretty flat load shape impact, and that makes sense because grocery stores use energy 24 seven.

265

00:45:03.420 --> 00:45:08.850

Adam Scheer, Recurve : Now, if you go to the next slide, this is what this program was actually claiming, this is what this program.

266

00:45:09.810 --> 00:45:17.370

Adam Scheer, Recurve : helped us to calculate their cost effectiveness, it was these these commercial lighting load shapes that are pre determined.

267

00:45:17.670 --> 00:45:24.060

Adam Scheer, Recurve : So if you just Andy if you wouldn't mind just toggling back and forth once or twice, and you can just visually you can see the difference between.

268

00:45:24.390 --> 00:45:33.000

Adam Scheer, Recurve : The measured low shape impact in the claimed load shape impact it says uh you know, if you remember that bar chart that I showed earlier.

269

00:45:33.690 --> 00:45:45.120

Adam Scheer, Recurve : This really has an impact on how the program is is valued and it also has a big impact on the credibility of this program in saying hey we can serve a grid need.

270

00:45:45.510 --> 00:45:57.390

Adam Scheer, Recurve : Because of procurement planner needs to know when energy is going to be saved and it's much more impactful if you have a measured value that they can trust, because you know just right away, we have this clear example of.

271

00:45:57.720 --> 00:46:06.090

Adam Scheer, Recurve : Where if this program was saving hey you know we're going to save a certain amount of energy at these times a day, it would be wildly off from what it's actually accomplishing.

272

00:46:07.140 --> 00:46:14.700

Adam Scheer, Recurve : So one more slide forward, I want to end just by talking reminding folks you know we've talked to probably 98% of this.

273

00:46:15.360 --> 00:46:29.670

Adam Scheer, Recurve : discussion so far has been about the benefits in a cost effective this calculation, but I want folks to remember that there's a denominator to and the denominator also holds a lot of our policy objectives.

274

00:46:31.170 --> 00:46:43.770

Adam Scheer, Recurve : You know, to account and what i'm showing in this bar chart is the all of the components that go into the TRC costs in the pg&e portfolio.

275

00:46:44.670 --> 00:46:55.020

Adam Scheer, Recurve : And you can see there's admin there's marketing there's implementation there's incentives, but that big blue bar toward the end from 300 million to $500 million.

276

00:46:55.590 --> 00:47:09.570

Adam Scheer, Recurve : This is participant investment and as Erin talked about earlier, the tlc captures participant cost, because the participant costs testers is effectively like one of the pillars of the of the TRC.

277

00:47:10.860 --> 00:47:17.280

Adam Scheer, Recurve : But if we think about this for a moment what do we want our programs to do we get limited ratepayer funding.

278

00:47:17.730 --> 00:47:28.590

Adam Scheer, Recurve : And we want our programs, to be able to take that limited ratepayer funding and motivate as much private investment as possible.

279

00:47:28.950 --> 00:47:42.930

Adam Scheer, Recurve : As much private capital as possible, we want to be able to take one ratepayer dollar and turn it into $10 that goes toward decarbonization and right now the TRC as a policy punishes you for doing that.

280

00:47:44.100 --> 00:47:56.520

Adam Scheer, Recurve : And this doesn't have to be the case as as Erin also talked about the national standard practice manual talks a lot about the fact that cost effectiveness tests need, among other priorities to be symetric.

281

00:47:57.360 --> 00:48:06.990

Adam Scheer, Recurve : And what we've lacked in cost effectiveness policy is symmetry in these tests, so the TRC can be made symmetric.

282

00:48:07.350 --> 00:48:19.320

Adam Scheer, Recurve : By either valuing all of the reasons participants are investing in their own homes and businesses so air quality, you know resale value increase productivity.

283

00:48:19.830 --> 00:48:27.810

Adam Scheer, Recurve : All of those kinds of things can be added to the numerator of the TRC equations as benefits but we've.

284

00:48:28.350 --> 00:48:35.520

Adam Scheer, Recurve : talked about that for a long time and there's been relatively little progress on on that Erin gave a couple counter examples to that.

285

00:48:35.970 --> 00:48:52.140

Adam Scheer, Recurve : But what I want to suggest to everybody is that's only one way to go about this question another way to go about it is to say what is represented in the cost of the equation and do Should we really be inhibiting programs from achieving.

286

00:48:53.370 --> 00:49:01.950

Adam Scheer, Recurve : A high degree of private investment in in energy efficiency and demand management, and I would argue that we shouldn't be.

287

00:49:02.520 --> 00:49:08.160

Adam Scheer, Recurve : inhibiting that, especially when it comes to new program mechanisms like financing, where you can really.

288

00:49:08.670 --> 00:49:14.700

Adam Scheer, Recurve : multiply the value of a rate payer dollar in terms of what you're getting back so i'll leave i'll leave everybody with that thought.

289

00:49:15.600 --> 00:49:25.500

Adam Scheer, Recurve : The next slide just just have some resources and so there's White Paper there's an article that we published on the symmetry issue with a.

290

00:49:25.890 --> 00:49:33.720

Adam Scheer, Recurve : And i'd also point out there's the FLEX value tools and code are available to everybody if you wanted to run cost effectiveness calculations yourself.

291

00:49:34.290 --> 00:49:43.110

Adam Scheer, Recurve : You you can do so, you don't need to write any code, you can there's there's a whole bunch of resources available, where Open Source cost effectiveness tools can now help us get past some of these.

292

00:49:43.980 --> 00:49:51.450

Adam Scheer, Recurve : Some of these slow elements of updating policy and really implementing it so i'll stop there, thanks everyone and happy to take any questions.

293

00:49:55.800 --> 00:50:07.020

Erin Cosgrove, NEEP: Great Thank you so much, Adam great and we did oh yeah I think we can close the PowerPoint slide for now and we'll pop it up again in a couple more minutes.

294

00:50:07.890 --> 00:50:15.870

Erin Cosgrove, NEEP: But so we had a couple questions come in, but I specifically I wanted to start us off because Adam highlighted that Mohit it took.

295

00:50:16.230 --> 00:50:22.980

Erin Cosgrove, NEEP: A couple of years to get this new portfolio segmentation you came up with it, and it was a lot of persistence, to actually get it implemented.

296

00:50:23.190 --> 00:50:30.450

Erin Cosgrove, NEEP: So you could highlight some of the barriers that you came across with and maybe, especially with regulators or private businesses or utilities specifically.

297

00:50:32.730 --> 00:50:34.980

Mohit Chhabra, NRDC : One barrier, I came up with was.

298

00:50:36.150 --> 00:50:47.220

Mohit Chhabra, NRDC : When we tried to be pretty pure unreasoning theoretically at least, but when you apply it different program administrators.

299

00:50:48.750 --> 00:50:58.920

Mohit Chhabra, NRDC : And or implementers looked at it as, how will this impact my program so have to draw a line there between getting influenced by.

300

00:50:59.460 --> 00:51:08.430

Mohit Chhabra, NRDC : private interests, it is important to take care of programs it's also person important to figure out who you know which way our north star is and balance those two.

301

00:51:09.210 --> 00:51:18.960

Mohit Chhabra, NRDC : So that was one we got lucky, you know, like I don't think all this was great advocacy it was the right time to push for something like this, a lot of these debates we've been happening.

302

00:51:20.190 --> 00:51:29.940

Mohit Chhabra, NRDC : When the results come in that, as our climate goals are increasing our portfolio budget and achievements are decreasing you don't have to work too hard to convince people that you need some change.

303

00:51:30.540 --> 00:51:46.170

Mohit Chhabra, NRDC : Right, so we got you know the right time we got a little lucky, and we had some really good smart staff and deputy that took these up as a lot of questions and improved upon them in their decision.

304

00:51:47.070 --> 00:51:55.170

Mohit Chhabra, NRDC : So I would say the main barriers were convincing people that doing things a different way isn't crazy and it's necessary and that just requires a lot of persistance.

305

00:51:56.190 --> 00:52:00.990

Mohit Chhabra, NRDC : which can be exhausting and then sort of trying to stick to.

306

00:52:02.550 --> 00:52:12.960

Mohit Chhabra, NRDC : The right principles of the solution and not get influenced, you know, because everyone looks at it, as what will this mean for my job, and you know you have to think through it, but there's a way to balance that.

307

00:52:17.850 --> 00:52:25.800

Erin Cosgrove, NEEP: Adam do you have any insights because I imagine that you might have actually been working in California when the segmentation was proposed, maybe.

308

00:52:26.370 --> 00:52:32.850

Erin Cosgrove, NEEP: At a different place than Recurve, so how how did you first view it, how did you come around to it and how do you see it now it's someone that works.

309

00:52:33.180 --> 00:52:43.110

Adam Scheer, Recurve : In these programs well how I first view that I think was very much in line with with how Mohit sort of feel like Mohit and I almost had this idea, like simultaneously and.

310

00:52:43.860 --> 00:52:49.860

Adam Scheer, Recurve : And and really put our heads together and i've really appreciated his collaboration over the years here and his advocacy.

311

00:52:50.250 --> 00:53:00.840

Adam Scheer, Recurve : You know it's it's one thing to have an idea it's another thing to like make it happen, and I think that that's that's What I would really give people like, if you remember one thing from this presentation it's.

312

00:53:03.060 --> 00:53:11.220

Adam Scheer, Recurve : policy has to be implemented, and I think, for a long time in California at least we've lacked the.

313

00:53:12.240 --> 00:53:18.240

Adam Scheer, Recurve : we've either we've allowed ourselves to just fall into rabbit holes in implementing policy.

314

00:53:19.050 --> 00:53:24.180

Adam Scheer, Recurve : Like the refrigerant one is a good one, you know, like the refrigerant stuffs been on the books for three years, we have yet to implement it.

315

00:53:24.990 --> 00:53:32.490

Adam Scheer, Recurve : So it is not enough if you're a regulator, or if you're from the legislature, whatever it may be, it is not enough to set policy.

316

00:53:33.090 --> 00:53:46.710

Adam Scheer, Recurve : You have to follow you have to make sure that it's followed through and so like really and that's not so you have to come down like a like a sack of concrete blocks on utility partners or something like that it's more to say that.

317

00:53:47.940 --> 00:53:56.190

Adam Scheer, Recurve : It really helps the things are streamlined and you've got to find partners within the program world that that are willing to do this kind of stuff you need to talk with them.

318

00:53:57.060 --> 00:54:00.810

Adam Scheer, Recurve : and make it so that you know I know that pg&e we were terrified all the time of the regulator.

319

00:54:01.080 --> 00:54:07.890

Adam Scheer, Recurve : Enough stakeholders, and all this kind of stuff and that prevented us from implementing a lot of this stuff the way that I think common sense would dictate you would do.

320

00:54:08.340 --> 00:54:16.200

Adam Scheer, Recurve : So I would just say you know follow through on the implementation front, because lots of policies die at the hands of confusion.

321

00:54:20.490 --> 00:54:29.940

Erin Cosgrove, NEEP: Oh great Thank you so much for that and then there's two I think sort of wonky specific questions that Adam that came in the chat that I want to hit on while I have you so the first.

322

00:54:30.810 --> 00:54:46.800

Erin Cosgrove, NEEP: The says the cpu see is addressing methane liquid leakage, could you speak more to that are they using a factor or specific calculations that's applied to natural gas production, and is it factored into the GHG's and social cost of carbon and DSM programs.

323

00:54:47.040 --> 00:54:57.600

Adam Scheer, Recurve : yeah good question, so the way this is approached is is basically a question of what is the marginal unit of energy that you're saving any given hour of the year right.

324

00:54:57.960 --> 00:55:08.790

Adam Scheer, Recurve : And so, if if the marginal unit that you're saving is from natural gas, then you have natural gas savings associated with that and because of that you reduce methane leakage.

325

00:55:09.240 --> 00:55:18.120

Adam Scheer, Recurve : And so during those hours of the year, you get basically a kicker on the avoided cost profile due to the fact that you're saving methane.

326

00:55:18.450 --> 00:55:28.710

Adam Scheer, Recurve : If you save and a kilowatt hour in the middle of the day when the forecast calls for solar curtailment then you're not saving methane so it's basically treated.

327

00:55:29.430 --> 00:55:39.060

Adam Scheer, Recurve : Like a temporal component of when you're saving energy and if there's natural gas on the grid at that point on the margin, then you get the methane leakage.

328

00:55:39.840 --> 00:55:53.670

Adam Scheer, Recurve : avoided cost that you can incorporate into your calculation for that hour that's projected out on the avoided cost calculator so that's all there it's it's it is treated as a global it's a global warming gas, of course, but it's treated separately, then, then, just like the GHG better.

329

00:55:55.110 --> 00:56:05.490

Mohit Chhabra, NRDC : Can I add just one thing to that to it's a flat percentage leakage, you know that deamed value and it's a 20 year global warming potential value, I think, right now.

330

00:56:06.210 --> 00:56:15.540

Mohit Chhabra, NRDC : And it's scaled according to the carbon value which we have, which is slightly different than a social construct carbon it's a marginal abatement cost of carbon yeah.

331

00:56:18.960 --> 00:56:22.320

Erin Cosgrove, NEEP: Okay, thank you um and then I actually have.

332

00:56:23.520 --> 00:56:29.250

Erin Cosgrove, NEEP: What yeah there's one more clarifying question, I guess, Adam showed some charts of hourly load changes aggregated by season.

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00:56:29.550 --> 00:56:40.440

Erin Cosgrove, NEEP: And a heat map where load changes are aggregated by month and is there a norm in terms of what level of aggregation works better for policymakers or regulators that you've come across I guess either one of you know, and so.

334

00:56:40.800 --> 00:56:53.940

Adam Scheer, Recurve : that's a really good question um I would say yeah So if you are in a jurisdiction like like many now where it really matters when you save energy, then the more granular you can get the better.

335

00:56:55.410 --> 00:57:07.680

Adam Scheer, Recurve : And I would say, like if you're at a jurisdiction that has only monthly data, for example, then you know, maybe it's less useful to rely on deemed load shapes and that kind of thing, but having hourly.

336

00:57:08.220 --> 00:57:16.620

Adam Scheer, Recurve : smart meter data available really can help you put these avoided cost to us, for example, like in California, where we have meter based programs now.

337

00:57:17.010 --> 00:57:30.390

Adam Scheer, Recurve : We can say look we're going to pay incentives on the that align with the total system benefits, and so we have some programs that we're working with folks we're we're doing exactly that, instead of just paying like per kWh and forgetting about when we're saving.

338

00:57:31.410 --> 00:57:40.890

Adam Scheer, Recurve : that's that's a really, really important factor in modernizing the portfolio, so the avoided costs are the price signal it's like the value signal if you want to have a market.

339

00:57:41.250 --> 00:57:53.850

Adam Scheer, Recurve : Then you need a value signal out there, and the more granular that can be the better, but I would say, it can also be taken overboard like the perfect can be the enemy of the good, so I would say start you know start where you need to but work toward them.

340

00:57:57.000 --> 00:58:01.140

Erin Cosgrove, NEEP: Great Thank you and then, I have one question that i'm going to finish this out with.

341

00:58:01.800 --> 00:58:05.010

Erin Cosgrove, NEEP: And it's Actually, I think, specifically for Mohit, but maybe Adam you can.

342

00:58:05.400 --> 00:58:13.800

Erin Cosgrove, NEEP: inform a little, but with the portfolio segmentation in California, I believe that you said, with the market and the equity segment.

343

00:58:14.100 --> 00:58:21.030

Erin Cosgrove, NEEP: They were going to do a cost effectiveness test, but it doesn't seem like there's going to be a cost effectiveness test there's going to be kind of policy guidance.

344

00:58:21.330 --> 00:58:32.310

Erin Cosgrove, NEEP: And I was wondering how did they decide that it was okay to not have a cost effectiveness to set test and what policy is considered good enough policy guidance to replace that are where that stands right now.

345

00:58:33.450 --> 00:58:34.170

Mohit Chhabra, NRDC : I think that.

346

00:58:36.810 --> 00:58:50.790

Mohit Chhabra, NRDC : They recognize the fact that it is hard to because they've been trying to quantify these non energy benefits for years and apply them in a forward looking manner and it's just hard, and they also recognize the fact that what we're trying to do here is.

347

00:58:51.900 --> 00:58:58.260

Mohit Chhabra, NRDC : A little outside the bounds of how do we get Least Cost energy solutions for repairs.

348

00:58:58.800 --> 00:59:06.990

Mohit Chhabra, NRDC : And that is a policy question and that policy question deserves a policy solution and be kidding myself if I were to say I can figure it out.

349

00:59:07.410 --> 00:59:19.560

Mohit Chhabra, NRDC : In a forward looking manner, what is the exact dollar value of non energy benefits from installation for a retirement community and or general population separately they're probably very, very differently.

350

00:59:20.100 --> 00:59:31.290

Mohit Chhabra, NRDC : So the question that they needed to answer was how much extra money can be spent for these goals you know so they say they bought into the theory They drank the Kool aid, and here we are.

351

00:59:32.730 --> 00:59:34.710

Adam Scheer, Recurve : I would have just one really quick thoughts about you know.

352

00:59:35.820 --> 00:59:42.540

Adam Scheer, Recurve : With market transformation, I think the question is a little awkward if you're asking me through the terms of a traditional cost effectiveness policy.

353

00:59:42.900 --> 00:59:45.120

Adam Scheer, Recurve : I think you need to look at it through the goals of the state.

354

00:59:45.510 --> 00:59:49.170

Adam Scheer, Recurve : If this you know in California, we have 100% decarbonization targets.

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00:59:49.410 --> 00:59:59.670

Adam Scheer, Recurve : Market transformation, we should be asking ourselves in 15, 20 years the length of time that a market transformation program right might really need to take hold and cause major changes in the market.

356

01:00:00.030 --> 01:00:07.710

Adam Scheer, Recurve : Are we going to get there without it right, and if you're not going to get there, without it, I think you got your answer a lot of the time.

357

01:00:08.010 --> 01:00:16.770

Adam Scheer, Recurve : So it makes a lot of sense not to constrain the market transformation portfolio with a cost effectiveness test it really wasn't necessarily designed to give you.

358

01:00:17.640 --> 01:00:24.180

Adam Scheer, Recurve : You know that kind of insight, especially when it comes to like discount rates right, I mean i'm the cost effectiveness test might have a 7,8% discount rate.

359

01:00:24.420 --> 01:00:29.910

Adam Scheer, Recurve : If you've got if you're only going to get if you're only going to get benefits 20 years in the future, you might as well just forget about it just because of that alone.

360

01:00:32.730 --> 01:00:40.080

Erin Cosgrove, NEEP: Thank you so much for adding that and, yes, that will wrap the question and answer segment of our webinar and thank you so much, Adam and.

361

01:00:40.410 --> 01:00:49.320

Erin Cosgrove, NEEP: Mohit for joining us today and offering valuable insights and information from from the West Coast for us that hopefully we can we can learn and build upon here.

362

01:00:51.030 --> 01:01:03.720

Erin Cosgrove, NEEP: Great and then also just before we finish off a couple of housekeeping announcements, the first is that at NEEP we have a couple of cost benefit test resources if you're still if you're interested in this conversation and.

363

01:01:04.560 --> 01:01:13.740

Erin Cosgrove, NEEP: want to do a little bit more research, we have an advanced MV for decarbonization policies web page that talks about not just cost benefit test, but the whole EM&V process the.

364

01:01:14.340 --> 01:01:22.260

Erin Cosgrove, NEEP: Current energy efficiency portfolio and how it can be transformed and then also a cost benefit test implementation guide that goes in to.

365

01:01:22.740 --> 01:01:30.270

Erin Cosgrove, NEEP: The outline that I provided at the beginning of the presentation today and then just one final reminder that we will be having two more webinars.

366

01:01:30.930 --> 01:01:37.590

Erin Cosgrove, NEEP: webinar on energy efficiency retrofits on September 7 a web and a webinar on Cap-and-invest policies.

367

01:01:38.250 --> 01:01:48.810

Erin Cosgrove, NEEP: December 14 all within our policy framework webinar series so keep an eye out for those emails and then, finally, we have an upcoming event that Andy is going to tell you a little bit about.

368

01:01:50.340 --> 01:01:58.200

Andy Winslow, NEEP: It just really quickly to top off our presentation on an upcoming event sort of unrelated to the discussion today but.

369

01:01:59.160 --> 01:02:12.150

Andy Winslow, NEEP: We will be hosting an event on building permit standards on June 29, which is a Tuesday and NEEP will be going over a resource on metrics that can be used for such building performance standard.

370

01:02:12.630 --> 01:02:25.500

Andy Winslow, NEEP: And we will also be hearing from Washington DC and learning how they implemented their standard and the barriers that they ran into so we hope to see you there on June 29.

371

01:02:27.840 --> 01:02:39.900

Erin Cosgrove, NEEP: Great Thank you so much Andy and, yes, if you have any questions, for me, Adam or Mohit feel free to shoot us an email, thank you all for attending and thank you to our presenters I hope you guys have a great afternoon.

372

01:02:40.710 --> 01:02:41.340

Adam Scheer, Recurve : Thanks everyone.

373

01:02:43.290 --> 01:02:43.830

Mohit Chhabra, NRDC : Thank you.

374

01:02:44.100 --> 01:02:44.760

Andy Winslow, NEEP: Thank you.