CALIFORNIA ENERGY COMMISSION

STAFF WEBINAR

| In the Matter of: | ) Docket No. |
| | ) 18-IEPR-08 |
| | ) |
| *2018 Integrated Energy Policy* | ) |
| *Report (2018 IEPR Update)* | ) RE: Barriers Study |
| _____ | ) Implementation |

**IEPR Staff Webinar on Tracking Progress
for Energy Equity**

CALIFORNIA ENERGY COMMISSION
3RD FLOOR CONFERENCE ROOM
1516 9TH ST.
SACRAMENTO, CA

WEDNESDAY, JUNE 27, 2018

10:00 A.M.

Reported By:
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APPEARANCES

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Pamela Doughman, Advisor to Chair Weisenmiller

Heather Raitt, IEPR Program Manager

Dorothy Murimi, Public Adviser's Office

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Public Comments:  (* Via telephone and/or WebEx)

*Ilonka Zlater (phonetic)

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I N D E X

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 1                    P R O C E E D I N G S
 2   JUNE 27, 2018                              10:00 a.m.
 3            MS. DOUGHMAN:  Hello and welcome to the 2018 IEPR
 4   Update Staff Webinar for Energy Equity Indicators.  My name
 5   is Pamela Doughman.  I am an Adviser to Chair Weisenmiller.
 6   And this meeting is being recorded and we plan to post a
 7   transcript on the IEPR webpage in a few weeks.
 8            For those participating well, this is a webinar,
 9   so everyone's participating by WebEx.  Please type your
10   questions into the chat function.  We will be saving your
11   questions until the end and then we will be reading the
12   questions from the chat function.
13            Also, Dorothy from the Public Adviser's Office,
14   go ahead.
15            MS. MURIMI:  Hello, everybody.  If you have any
16   questions you can go ahead and send them to
17   diversity@energy.ca.gov we will be forwarding those
18   questions on to Pam and we'll be able to answer those for
19   you.  Thank you.
20            MS. DOUGHMAN:  Great, thank you.
21            Okay.  So by way of background, the Energy Equity
22   Indicators, this follows from a recommendation in the
23   Barriers Report, the SB 350 Barriers Report that was
24   adopted by the Energy Commission in December of 2016.  The
25   Energy Commission's report, the Barrier Study, focused on
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1   energy efficiency and renewable energy, as well as small

2   business contracting in low income and disadvantaged

3   communities.

4           Also, SB 350 directed the California Air

5   Resources Board to prepare a companion study.  And they

6   published their guidance document earlier this year,

7   focusing on transportation in low-income and disadvantaged

8   communities.

9           So as I said, the Energy Equity Indicators

10  implements one of the recommendations to develop

11  standardized Energy Equity Indicators, as metrics, to

12  ensure low-income customers are being served and to use

13  these metrics to set a statewide baseline to advance energy

14  savings and track performance.

15          So this is the launch for the Energy Equity

16  Indicators.  And we plan to provide an update once a year

17  in the form of a .PDF Tracking Progress Report and we'll be

18  updating the Interactive Story Map periodically.

19          The purpose of these indicators is to identify

20  opportunities to increase clean energy access, investment

21  and resilience in low-income communities and disadvantaged

22  communities.  And this is part of the 2018 IEPR Update and

23  written comments are due July 11th, by 5:00 p.m.

24  Additional information on how to file written comments is

25  included in the notice for this webinar.

1          So today, we have three presenters: myself, I'm

2    Pamela Doughman and I'm an Adviser to Chair Weisenmiller.

3    And we also have --

4          MS. LUND:  Hi.  I'm Kaitlyn Lund.  I'm an intern

5    in Chair Weisenmiller's Office this summer.

6          MR. DAVID:  And my name is Travis David.  I'm a

7    GIS specialist with the Energy Commission.  And my role in

8    this project has been acquiring and managing the data side

9    of things.

10          MS. DOUGHMAN:  Okay.  So first I want to let you

11    know how to find the Energy Equity Indicators.

12          So we have this page, this landing page.  You can

13    get to it by going to the home page of the Energy

14    Commission and then the SB 350 page and the Barriers

15    Report.  That brings you to the Energy Equity Indicators

16    page.  And if you scroll down here, then you have an

17    overview of what this is about and we have a sample

18    interactive map.  We'll talk about that in a moment

19    actually, but first we want to show that there is a

20    Tracking Progress Report, as well as Interactive Story Map.

21    And the focus of today's presentation is going to be

22    primarily on this Interactive Story Map.  We want to show

23    you how to navigate and explore the information that we

24    have there.  So let's go check it out.

25          Okay, so Travis, your turn.

          1          MR. DAVID:  All right, this is Travis speaking.

          2   As you can imagine, there are a lot of data sets in the

          3   world, dealing -- that can be used to indicate energy

          4   accessibility, investment opportunities and resilience, in

          5   a lot of different formats such as Excel tables, Tableau

          6   files, data base files and modeled raster data sets.  With

          7   a multi-agency effort such as this we need a system that

          8   can store and share the data, so that we can choose the

          9   best data sets, set benchmarks, track trends over time and

         10   collaborate with industry experts and stakeholders such as

         11   yourselves.

         12          As a GIS Specialist, my solution was to convert

         13   everything into GIS format and develop an analysis and

         14   sharing platform.  GIS stands for Geographic Information

         15   Systems.  You can use it to layer different data sets on

         16   top of each other, geographically, across the surface of

         17   the earth.

         18          If the data has a spatial component such as

         19   coordinates, county, census tract, zip code, it can be used

         20   in a GIS and compared to each other data set and the more

         21   precise the better.  I'll explain more about this in a bit.

         22          In addition to creating a document with maps, the

         23   Energy Equity Indicator team has created this Interactive

         24   Story Map that allows users to really dig into the data.

         25   Let's follow the directions indicated here on the right-

1  hand side and scroll through the text to show you what I

2  mean.  You can move between frames by clicking this

3  downward arrow.  You can hover the mouse over the text

4  section and use the mouse wheel to move down.  You can also

5  click on the header of the next frame to move to that

6  frame, or you can use the buttons on the left side of the

7  screen here to move frame to frame.

8        To show you an example of an interactive web map,

9  I'll click on the button for figure three.  All right,

10  accompanying a descriptive text on the left-hand side is

11  the data projected geographically to the right.  And the

12  white areas represent a lack of data.  The gray lines,

13  which are in many of the story maps, indicate California's

14  58 counties.

15        If you want to know what the colors represent,

16  you can expand the legend in the upper right by clicking on

17  it.  The orange outlines are disadvantaged communities,

18  tribal land is pink and low-income areas are dark green.

19  At the bottom of the text for each frame is the source

20  where we acquired the data.

21        Both the green low-income data set and the orange

22  disadvantaged communities are divided by census tracts.

23  Units of measure used by the American Census, which contain

24  roughly the same population, meaning rural census tracts,

25  like this one over here in the desert; a large size and

census tracts in high population areas, like in the City of
Los Angeles much smaller.

When we compare other data sets divided by different units like zip code boundaries, we consider the area to be near low income if the part of the zip code boundary, which may have a different border than the census tract, over laps low-income census tract boundaries.

You can navigate around the map using the buttons on the upper-left corner of the screen. The plus button zooms in. The minus button zooms out. You can hover your mouse over the map and use the mouse wheel to zoom in and out. And you can click and hold the mouse and move it to pan around.

If you're interested in a specific location, you can press the magnifying glass on the left-hand side and type in the area you're looking for. For example, I'll type in Long Beach, California and it zooms me there.

If you want to know the specifics about the underlying data, all you have to do is click on it. A popup comes up, giving you information on what you click on. In this case, we know that this is a low-income census tract. We know the tract number, the median household income for that census tract, the statewide median household income and the percentage, which is below the 60 percent benchmark, which indicates that this area is

1   disadvantaged.

2          Right now, it's on CalEnviroScreen.  Here's the

3   low income, so as we can see the tract indicates the tract

4   number, the median household income, the statewide income

5   and then here is the percentage, which is below the 60

6   percent benchmark.

7          So like I mentioned before, data is layered on

8   top of each other in GIS, so this is showing this census

9   tract as a low-income area.  But when there's another layer

10  beneath or above it, an arrow appears in the popup and you

11  can click on that to move between the two layers that are

12  overlapping each other.

13         So if I click to go over, I can see the

14  disadvantaged community side of things, which is the

15  CalEnviroScreen 3.0 layer, which indicates census tract,

16  population, county name, zip code, city and its

17  CalEnviroScreen score.  And the scores above 75 percent are

18  considered disadvantaged.

19         Now that you know how to operate the Story Map,

20  I'll hand the mic over to Kaitlyn.

21         MS. LUND:  Thank you, Travis.

22         So I'm going to be actually going back up a bit

23  from where we were is on the left-hand side, the docs that

24  Travis's promise is about and bringing us back to Table 1.

25  So what this is basically showing you on the image on the

1 | right-hand side, and as Travis explained it shows the test

2 | that correlates with that, on the left.

3 | So on the right-hand side you can see it shows

4 | the 12 recommendations.  These all come from the Barrier

5 | Report, from SB 350.  And the associated indicators for all

6 | of those are on the right-hand side, as you can see.

7 | So for example, Recommendation No. 2 is enabling

8 | community solar offerings for low-income customers.  And

9 | the associated indicator, in order to make sure we're

10 | meeting that kind of recommendation and the way in which we

11 | do so, is community energy resilience.

12 | Or as Pam explained earlier, Recommendation No. 5

13 | from the Barriers Report is establishing common metrics and

14 | encouraging data sharing across agencies and programs.

15 | This aligns with all the indicators as seen and this is the

16 | Tracking Progress Report for Energy Equity Indicators as

17 | well as the Story Map here.

18 | So this was kind of created off of SB 350's

19 | Barriers Report.  And as Pam stated, the Energy Equity

20 | Indicators Tracking Progress Report and put into a story

21 | map format that's a bit more fun and engaging for all sorts

22 | of stakeholders to use, whether that be utilities or state

23 | agencies in order to see opportunities for further

24 | investment, in order to see the low-income and

25 | disadvantaged communities that are not receiving currently

1  all the benefits that they are capable of receiving, or

2  even for any household to see that maybe wants energy

3  efficiency upgrades, to see the programs and funding if

4  they're eligible for it.

5           So that's Table 1.

6           I'm going to move and hover over the heading for

7  Figure 1 and we're going to move to that one.  So we went

8  from recommendations from the Barriers Study to the

9  indicators that are associated with this, and now we're

10  moving on to the objectives from the Energy Commission, in

11  order to meet so.

12           So the three spheres represent the three

13  objectives of the Energy Commission.  So one, access; two,

14  investment and three, resilience as they're all seen in

15  their own circles.  And so we want to increase access.  We

16  want to increase investment and to increase resilience, in

17  order to more so meet the needs of low-income and

18  disadvantaged communities for clean energy.

19           So each sphere has associated indicators with

20  them.  As we look at the access sphere, access is the

21  objective.  And the associated indicators are below it.  So

22  that is number served, small business contracts and clean

23  energy jobs.

24           However, it's a Venn diagram, so they do overlap

25  so many of these indicators don't solely meet one of the

 1    objectives.  But they meet several.  So for example,

 2    rooftop solar not only falls under increasing investment

 3    for programs such as this, it also relates to access.  And

 4    that we want to increase the number of households that are

 5    served.  And this is also relates to resilience in terms of

 6    lowering energy bills with clean energy.  So they're not

 7    exclusive, but rather overlap and connect with each other.

 8            And now I'm going to move on to Pam, who's going

 9    talk more about eligibility for these programs that we're

10    talking about.

11            MS. DOUGHMAN:  Okay.  So we're going to go back

12    to Figure 3 and what we're looking at here is California

13    Tribal Lands SB 535 Disadvantaged Communities and Low-

14    Income Communities.  And the point we're making with this

15    map is to show how these different categories overlap.

16            So the orange outline, we draw down the legend

17    here.  The orange outline, the census tracts that are

18    outlined in orange, these are disadvantaged communities and

19    they are eligible for various programs and incentives

20    funded by the Greenhouse Gas Reduction Fund.

21            We also have here the, what our definition is for

22    low-income communities, we're using low-income census

23    tracts that are 60 percent or below the statewide median

24    household income.  And the reason that we selected that is

25    it's a lowest common denominator.  And geographic areas

1    that meet this definition are likely to be eligible for a

2    broad number of incentive programs.

3            Just for comparison, we also have a light green

4    section here that is showing -- you can see this is above

5    60 percent of statewide median household income, but it's

6    below 80 percent.  And so for some programs 80 percent of

7    statewide median income is the eligibility criteria.  But

8    for the remainder of the maps, we are focusing on the 60

9    percent and below, so when we say low income, that's what

10   we're referring to for the purposes of the Energy Equity

11   Indicators.

12           Okay.  And next is Kaitlyn.

13           MS. LUND:  All right.  So we're just going to the

14   next figure.  So as Travis said, I'm going to use the wheel

15   to scroll down and we're actually going to Figure 4.  So

16   this is low-income areas with highest August electricity

17   bills, so that's what you're seeing on the right.  It is

18   zoomed into this specific area is where it's set, but this

19   is just to make it a bit more easier and a bit easier to

20   digest.

21           So we chose to focus on August electricity bills,

22   because it's during the summer in a particularly hot month,

23   when people tend to have a bit higher of an electricity

24   bill such as from using the AC.  So I'm going to pull down

25   the legend just to explain that a bit more.  So I'm going

1  year, that's equal to 10 cooling degree days so just to

2  explain that a bit more.

3          So I'll close the legend.  I'll just open and

4  close it.  So you see a lot of colors that are meshing on

5  here.  And as Travis explained before, that's just the

6  layering of data.  So if you see this lighter green, which

7  is still the low income, if I click on it, the only

8  difference between this one and the other green is that

9  that has an additional layer on top.  So low income, as you

10  can see, and when I use the arrow at the top, the other

11  layer on top is additional cooling degree days.

12          And the importance of this is it's showing --

13  with all the layering, it's showing that these low-income

14  areas also have very high August electricity bills and that

15  they're in areas that tend to be super-hot.  So for example

16  on this, where zooming in on Riverside and San Bernardino

17  and the people there are paying higher bills that are also

18  low income when they're also in hot areas.

19          So I'm going to pick a specific point, just to

20  make this a bit easier.  I'm going to click on this gold

21  one, San Bernardino and this information popup comes up.

22  So the first layer that comes up is the low-income census

23  tract.  So as you can see, the 60 percent benchmark and

24  it's lower than that.  And if I click the arrow on the top,

25  I can move it to the next data set and this is showing

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 1    August electricity bill within a low-income census tract
 2    for a single family.  And you can see on the second line,
 3    that's about $500, which is substantially high and it does
 4    show as well that it intersects low income, but is not a
 5    disadvantaged community.  And if I even want to go further
 6    to see the next status that it intersects, I'm going to
 7    press that arrow again, and it shows the additional cooling
 8    degree days.
 9            So this one is modeled for 2014, showing
10    historical cooling degree days at about 1,600 days, however
11    in these areas such as San Bernardino, it's only expected
12    to get hotter in these areas, with climate change.  So and
13    another point that was added in this information table, was
14    modeling additional cooling degree days from the year 2035
15    to 2064.  And it's modeled that these cooling degrees are
16    just going to double.  So you can see that with climate
17    change, that in these areas getting hotter, the cooling
18    degrees are doubled to about 3,000.
19            So, exit out of that.  So again, just one of the
20    takeaways you can take from this is that this map is
21    showing where further investments would be really
22    beneficial to these communities that are low income as well
23    as already have really high electricity bills, that are
24    only expected to probably get higher.  And we wanted to do
25    this in order to relieve energy burden, which is the amount
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 1   of one's income that goes toward paying for that high

 2   electricity bill every month, as well to increase energy

 3   resilience, which is the services communities need to

 4   recover being de-energized from utility fires as well as

 5   from must being able to enjoy and have affordable,

 6   accessible and reliable energy as well.

 7           And so you're going to stay with me, and I'm

 8   going to go to Figure 5.  So again, I'm going to scroll,

 9   just go to this next one.  It's a bit easier.  So this

10   figure is going off of that point about energy burden that

11   I just made.  So energy burden, again, is the amount of

12   one's income that goes towards paying for that energy bill.

13           So what this shows, on the X axis, below here it

14   shows where they kind of lie on the statewide median

15   income, so 100 percent, that's the people who have the most

16   high income.  And from 0 to 30 percent, as you can see,

17   that's people with the lowest income.

18           And this left Y axis is showing the fraction of

19   their income that goes towards paying their energy bill

20   every year.  And on the right Y axis is showing just that

21   total on map that they're paying.

22           So what's really important about this one is

23   seeing although the orange bars, which is showing the pure

24   amount of money they're paying every year, it's very

25   different compared to the fraction of their income, which

1    is shown by the blue bars that people are paying.  So

2    although it's seen with the people of the highest income,

3    again under 100 percent, that the orange bar, the total

4    amount they are paying is the highest.

5             When we go to the 0 to 30 percent, the people

6    with the lowest income, their orange bar, the average total

7    amount they're paying isn't that much lower.  But if you

8    look at the blue bar, the fraction of their income, it is

9    the highest.  So this shows that the people with the lowest

10   income are paying the largest portion of their income

11   towards their energy bill every year.

12            And this was created from the U.S. Department of

13   Energy, specifically from their program CELICA, Clean

14   Energy for Low-Income Communities Accelerator.  It's kind

15   of just putting into a visual how much people pay,

16   especially low income, for their energy each month.

17            MS. DOUGHMAN:  Can I just add a point?

18            MS. LUND:  Uh-huh.

19            MS. DOUGHMAN:  So this is showing Riverside

20   County.  And Riverside County includes a desert area as

21   well as a mountainous area.  And then it's part of the

22   larger Los Angeles Area Basin, so there's a mix of

23   different climates.

24            MS. LUND:  Thank you, Pam.  Yeah.  So it's

25   showing a specifically hot area.

1          And I'm going to keep going.  Kind of related to

2    energy bills, I'm going to go to Figure 8, so as Travis

3    said I'm using these dots on the side.  So Figure 8, that's

4    what I want, take us down there.  And this is showing, in

5    relation to energy bills, specifically high-cost heating

6    fuels.

7          So as I look on the map, pull down the legend

8    again.  And rather than showing the green that we've been

9    seeing before, which the specifically showing low income

10   that are less than are equal to 60 percent of the statewide

11   median income, this is rather showing a different type,

12   which is top 20 percent of households in low-income areas

13   that aren't using natural gas, solar, or electricity as a

14   heating fuel.

15         And it's also showing in the pink that you can

16   see in Southern California, and some in Northern California

17   as well, Tribal Lands.

18         So what this map is showing is that a lot of

19   these areas that are low income and a lot that are -- some

20   that are in Tribal Lands and some are in rural areas are

21   still using the most expensive heating fuels, which are

22   propane or fuel oil rather than less expensive heating

23   fuels, which are natural gas or electricity or even solar.

24   So this is just something that adds an additional price to

25   the energy bills, which we have seen previously are already

1   substantially high.

2        So now, I'm going to move on to Pam and she's

3   going to talk to you about Figure 11.

4        MS. DOUGHMAN:  And just to note.  We are

5   highlighting some of the key points and some of the key

6   figures, but there are additional figures that we are

7   leaving to you to explore at a later time.

8        Okay.  So we would like to highlight Figure 11.

9   This figure shows areas with the lowest investor owned

10  electric utility energy efficiency investments.  And the

11  data on this map is focusing on 2016, 2017, but going

12  forward, we are planning to look at trends across different

13  years.  And also, we're planning to add in publicly owned

14  utility data.

15       So then, and again some of the maps are defaulted

16  to the state.  Others zoom in to a particular area and that

17  when we zoom in, it's to help the user of this interactive

18  web map focus on the information that's described on the

19  left.  We're highlighting that particular point.

20       So looking at the legend here, for this one, we

21  see the areas that have the golden outline are showing the

22  CEDARS data that is California Energy Data and Reporting

23  System.  This is for the investor owned utilities that are

24  regulated by the California Public Utilities Commission.

25       And this is focused on the lowest 20 percent.  So

we're just zooming in on the areas where there is the

greatest opportunity for additional investment.  And the

benchmark here is about $5,000 per 1,000 people per zip

code.  But we have filtered that for this map to focus on

areas that intersect census tracts where 70 percent of the

structures were built before 1979 and they are low-income

census tracts.

And so the reason we are highlighting the older

buildings is that the Energy Commission's Energy Efficiency

Standards have been saving Californians billions in reduced

electricity bills since 1977.  And the data that we had

available was by decade.  So this is a proxy showing areas

that are likely to benefit greatly from additional

investment in energy efficiency.  But it's just a starting

point to encourage people to dig deeper, to see what

opportunities might be located in these areas.

Okay.  So then, I wanted show that the solid

color is focused on the numbers served.  So this is the

number records, per 1,000 people, per zip code is less than

the 20 percent, it's the lowest 20 percent.  And in this

particular indicator, the benchmark is 1.6.  Again, this is

areas that are intersecting the areas with many older

buildings.  And so if you look at areas that have both the

solid color and the bright outline here, then you can see

this is the census tract that has low total expenditures

1  relative to other investor owned utility census tracts.

2  And it has a low participation rate, so this area may be a

3  good place to look at for future additional targeted

4  outreach.

5          So you can see there's another similar area here

6  in Kern County and up in Northern California there are some

7  areas that have that characteristic.

8          Okay.  So next it's back to Kaitlyn.

9          MS. LUND:  All right, and I'm just going to go

10  the figure under this, so I'm going to click on your 12

11  heading.  It's going to bring us down there, as Travis told

12  us earlier.

13          So what does this showing just to read the

14  heading is low-income areas with low solar capacity, per

15  capita.  And we're specifically looking at Long Beach area

16  in this map.  So this is relating to Indicator No. 3, which

17  is about rooftop solar.  So the importance of this one is

18  that showing low-income census tracts.  So I'm going to

19  pull down the legend.  So in the teal color that's seen, it

20  says "NEM System Size."  NEM stands for Net Energy

21  Metering, which is customers who generate their own energy,

22  whether through solar, to meet their own energy needs and

23  then they can also receive financial credit for that.

24          And there's that across that we see.  And then we

25  also see the red dots everywhere, so what these represent

1  is high density housing.  So it says low-income census

2  tracts of those specific utilities, PG&E, Southern

3  California Edison and SDG&E, for multifamily accounts.  So

4  that's high density housing whether that's an apartment

5  building, for example.

6       So the importance of this is it's showing in

7  multifamily housing buildings, which are all the red dots

8  again, there is less roof space actually and therefore less

9  ability to rely on just rooftop solar.

10      And so we need different approaches to solar for

11  this different type of housing, because although we see in

12  the teal all the net energy metering, the red dots show

13  that many of these are, for example, like apartment

14  buildings rather than single family homes that have several

15  different roofs it's all under one roof.

16      So for this specifically, I'm going to look in

17  closer to Long Beach, so I'm just going to hover over the

18  area.  I'm going to click in and it's going to take me

19  there.  So as you can see, Long Beach, Southern California,

20  it's a pretty sunny area.  So you would think that there's

21  many opportunities and ability to use solar energy.  So you

22  see the net energy metering size from all that teal,

23  however there are a lot of red dots, showing all the high

24  density housing, so all apartment buildings that have less

25  roof space for solar panels.

1           So in areas where specifically I'm going to talk

2    about Long Beach, this'll be an opportunity for investment

3    in different types of solar that don't rely solely on roof

4    space and rooftop solar.

5           So as a takeaway, this is just showing specific

6    low-income areas that might have more high-density housing,

7    there needs to be more opportunities for investment in

8    different type and different approaches than rooftop solar

9    in order to increase access to solar energy or other types

10   of renewable energy and also reduced those customers'

11   energy burden since as was spoken about earlier renewable

12   energy such as solar, is a lot less of an expensive fuel

13   than propane or fuel oil.

14          So now it's going to go back to Pam and she's

15   going to talk to you about a different figure as well.

16          MS. DOUGHMAN:  Okay.  So we're going to jump down

17   to Figure 16.  Oh, just one other point about this net

18   energy metering, these are areas with low levels of net

19   energy metering, compared to other areas.

20          Okay, Figure 16.  Okay, so this is showing the

21   number of cumulative plug-in electrical vehicle sales by

22   county for 2016.  And so if we look at the legend we can

23   see we've got the number of vehicles per county as well as

24   the percent, relative to the population.

25          And another point about these maps is that the

1 colors are somewhat transparent. So that when they're

2 overlapping it may appear to be a different color. So we

3 have a salmon color and a blue color that when they

4 overlap, they make more of a purple color. So that just

5 means that we've got both layers on top of each other.

6 And when you have the blue dot, that is the

7 percentage of electric vehicles per population, that that

8 ranks lower compared to other counties than the total

9 number of electric vehicles, then you have this purple dot

10 inside of a pink dot, or a salmon dot, for example in Los

11 Angeles. So this means that there are a large number of

12 electric vehicles compared to other counties, but there are

13 fewer vehicles per person compared to other counties.

14 And then, for example, if you look at Humboldt

15 County then you can see the reverse, where there are

16 relatively few or a smaller number of electric vehicles in

17 the county compared to other counties in California. But

18 on a per person basis it's pretty much in the middle,

19 compared to other counties in California.

20 Okay. But something I want to highlight here is

21 that some of the counties such as Fresno County in the

22 Central Valley, have a relatively small total number of

23 electric vehicles and a small number of electric vehicles

24 per person. So this indicates, this data suggests that

25 there's an opportunity for expanding access and investment

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 1    in electric vehicles for the Central Valley of California.
 2            Okay.  Now I'm going to go to Figure 17, which is
 3    a program.  This is the Clean Vehicle Rebate Program.  And
 4    this provides incentives for low-income areas of
 5    California.  And this map is highlighting areas where there
 6    is a low level of investment.  So that's shown, if you open
 7    the legend here, we see the brown color is the lowest 20
 8    percent of rebate dollars per population in the census
 9    tract where the median household income is less than 60
10    percent of the statewide median income.  So we are showing
11    here that the areas that are both low income and have low
12    participation in this rebate program.
13            So we can see -- why don't we zoom in to Los
14    Angeles?  See what's going on there.  Let's zoom a little
15    more.  Oops.  Okay.  So we can see in these areas this is
16    information that can be used by community-based
17    organizations or local government interested in making sure
18    that their communities are aware of this money that's out
19    there to help them invest in electric vehicles.  That this
20    census tract, for example, has a lower -- it's not taking
21    advantage of this rebate program as much as say, a nearby
22    low-income census tract over here.  So this data can help
23    people recognize opportunities for further investment in
24    their communities for electric vehicles.
25            Okay.  So next is Kaitlyn.
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                 MS. LUND:  All right.  So we're going to move

past what Pam was talking about, electric vehicles.  We're

actually moving on to a different indicator.  So I'm going

to look on this side.  I'm going to Figure 19, take us

there.  So this is about asthma related emergency room

visits by county specifically.  So this is focused on an

indicator about health and safety.

                 So as we can see on the map there's a lot of

orange dots.  Specifically, it's only by county so as you

see the dots they are only centered in each county.  So as

I pull down the legend I can see -- well I'm going to start

from the bottom actually.  So again that green that we've

been seeing throughout all the figures we've been showing

you, so the census tract median household income that's

less than 60 percent of the statewide median income, so

that's kind of the base we've been using.

                 As well we have as I scroll up on the legend, I

see CEDARS total expenditures per person, so the amount of

money that investor owned utilities are spending on energy

efficiency investments specifically in old homes.  So as

Pam had explained before, this is specifically old homes

and structures that were built before 1979.

                 This served as a proxy for building Energy

Efficiency Standards.  So it's specifically showing that.

So the lowest 20 percent of expenditures from investor

1  owned utilities and energy efficiency investments in these

2  old homes.  Just to reiterate that.

3         And we scroll up, all these dots that are

4  correlating, so it's a percent of asthma ER visits by

5  population.  And as said it by county.  So it's not as many

6  data points as before, but per county.  So the bigger the

7  orange dot gets, the higher percent of asthma ER visits.

8         And as well, I'm going to talk a little bit about

9  the layering that Travis and Pam and I have been

10  mentioning.  So as you can see here on the map it shows the

11  orange, which is the lowest 20 percent of money spent by

12  IOUs.  We also have the green, which is that low income of

13  less than 60 percent of statewide median income.  But if

14  you look up here, as we can see in this -- oops, not that

15  county, this county -- it shows, you see a bit of the

16  layering of the data.  And as Travis and Pam have explained

17  before, that just causes a bit of a different color to out.

18  So that is literally the green and the orange layer on top

19  of each other, because it contains both of those data sets.

20  So we see that.

21         And I notice a lot of orange dots that we're

22  seeing, but we're going to specifically look at a few.  So

23  I'm going to go and look into Kern County, specifically.

24  It's the one down here, click on the dot.  So as it shows

25  up I'm going to use the top arrow to scroll all the data

1  sets that are correlated, so I can see it as the low

2  income, so 61 is the statewide median income.  It's less

3  than that.  As I scroll again I can see it also has the

4  orange that was talked about.  So the lowest 20 percent of

5  expenditures by investor owned utilities in those old

6  buildings.

7         And then when I go back to the top or the arrows

8  again to the asthma ER visits, it shows as we go down the

9  table, it shows the county, Kern County.  The total number

10 of asthma ER visits specifically in the year 2015, which is

11 about 5,800.  It shows the total population in Kern County

12 and below that, it also shows the percent of asthma ER

13 visits according to the population of Kern County.  So

14 that's about 0.68, is what that shows.

15        And so even though I specifically zoomed in on

16 that point, if you look as the whole at the Central Valley

17 there tend to be those orange dots, tend to be a lot

18 larger, which means they have a larger percent of asthma ER

19 visits per population.

20        So this is kind of one takeaway of that is

21 highlighting that there's a lot more opportunities for

22 investment, especially in the Central Valley, in order to

23 kind of reduce that energy burden that causes -- so when

24 these low-income households, which it's showing from the

25 layering in this data such as Kern County when they're low

1   income and they have had low expenditures and energy

2   efficiency investments.  And specifically in Kern County,

3   that's a very dry area and when they already have high

4   electricity bills this may cause them to make the decision

5   whether or not to have insufficient cooling or heating.  So

6   perhaps their bill is so high that they decide to maybe not

7   use the AC as much for a certain hot day.  And this leads

8   to the increased incidents of asthma, which then is

9   correlated on this map by showing the ER visits.

10          So this would show further investments so we

11  could reduce the energy burden.  So their bills aren't as

12  high and they don't have to make that decision necessarily

13  to do such.  And this also just shows how we need to

14  increase then affordability of energy as well.

15          And I'm going to be moving forward to Figure 23.

16  So again, I'm going to use these dots on the side as Travis

17  showed us, to navigate and it'll take me there.  And as

18  it's loading we're specifically looking at low-income areas

19  within fire threat.

20          So this is a different indicator related to

21  energy resilience as spoken before, which is about the

22  services and affordability and accessibility of energy for

23  customers.

24          So when I pull down the legend we're going to

25  look at this.  So again we have that green that has been

1    spoken and referred to again and again at that baseline of

2    less than 60 percent of the statewide median income.  But

3    specifically for this map, we're only looking at the low

4    income on that level that are within Tier 2 and Tier 3 fire

5    threat areas.

6            That's what we've specifically narrowed it down

7    to.  So Travis was able to get it so it doesn't show all

8    low income, because although in the Central Valley we know

9    before we are seeing a lot of areas that are low income,

10   it's specifically showing -- or are maybe prone to fires --

11   it's specifically showing low-income areas less than 60

12   percent that are within Tier 2 and Tier 3 fire threat

13   areas.

14           And as we go down the legend we can also see

15   those different tiers.  So the lighter orange, as shown

16   here and throughout the map is Tier 2 fire threat.  And

17   that refers to areas that have an elevated risk for utility

18   caused fires, specifically.  So we're not looking --

19   although we know California is in general prone to fires,

20   we're looking at specifically utility caused fires in this

21   map.  And that is what Tier 2 is referring to, like an

22   elevated risk.  And Tier 3, that darker burnt orange on the

23   map, is referring to an extreme risk for those utility

24   specific caused fires.

25           So what this map is showing as a whole, before I

zoom in, is that there's a lot of intersection.  We see a

lot of areas that are low income within Tier 2 and Tier 3

fire threat areas.

So specifically, I'm going to use the search bar

that Travis told us about before.  And I'm going to look

into Plumas County.  And you can see from that, that

there's an intersection of all of the legend items we were

talking about previously.  So there is the green that's

showing the low-income areas within fire threat area, the

Tier 2 and Tier 3, There's a lot of fire Tier 2 and fire

threat Tier 3 areas.

And so where we got these layers and definitions

of these fire threat areas from is from CPUC, which is

using data from CAL FIRE.  And they actually just updated

their standards to include these definitions of fire threat

areas specifically caused by utility fires.  So this is

important because it shows more opportunities for utilities

to increase energy resilience, because since many of these

low-income areas are intersecting fire threat areas that

are caused by utility caused fires this can lead to de-

energizing and that's when your energy is shut off in order

to prevent fires from spreading even further from

utilities.

And this impacts further customers access and

energy resilience when those utility caused fires do occur.

1          So, and as Pam's going to talk about more

2     opportunities to increase this resilience from these fires

3     are with microgrids.  So I'm going to hand it off to Pam.

4          MS. DOUGHMAN:  Okay.  So let's jump in on to

5     Figure 26.

6          Okay, so this shows opportunity to increase

7     energy resilience of critical facilities.  And in this

8     case, we have zoomed in to an area of Western Riverside

9     County that is subject to Santa Ana wind conditions.  And

10    the Santa Ana Winds are hot winds that come over the

11    mountain.  They're hot and dry winds.  And when we have

12    Santa Ana Winds, there is a high risk of fire and so

13    investor owned utilities may decide to reduce the risk of

14    fire by de-energizing transmission lines.  And we can see

15    here we have some transmission lines coming through this

16    area.

17         So if that happens, it could be a day or several

18    days that this area may be without electricity.  So it's

19    important for the airports, the gas stations, other

20    critical facilities in the area to have self-generation

21    capability that will continue to operate if electricity

22    from the power grid is not available.

23         So one way to provide that electricity, to

24    provide self-generation, is through a local micro grid that

25    is designed to have the capability to continue to provide

1  local electricity even when the broader electricity grid is

2  offline.

3          And so if we look at the legend here, we can see

4  there are a number of critical facilities shown on the map.

5  And these are -- we're just showing the publically

6  available locations, fire stations, that sort of thing.

7          And then we have this color here is showing the

8  highest fire threat on the CPUC Fire Threat Map, this is

9  Tier 3.  And this other color orange is the fire threat

10 that's Tier 2.  And then the white areas just to reiterate

11 what Travis said earlier, they're just areas where we're

12 not -- this particular map is not highlighting data in

13 those areas.

14         And then other layers such as this layer is for

15 federal lands.  And then where there's an overlap of say

16 federal lands and fire threat then we are getting this

17 other color here.

18         And then if we zoom out a little bit, or we scoot

19 to another area, we would see some energy funded

20 microgrids.  But to make that point I'm going to shift over

21 to Figure 25.

22         Figure 25, so this has a different background

23 area.  This is showing the vegetation in the area.  And

24 this area is outside of one of the high fire threat areas,

25 but still there was a fire, the Blue Fire, recently.  And

1  there's a microgrid here on Tribal Land.  This is the Blue

2  Lake Rancheria.

3           This is in Northern California, in Humboldt

4  County.  And this is Blue Lake.  It's a small city up there

5  and there are some critical facilities, fire station

6  etcetera and there's a Red Cross Emergency Center on the

7  Tribal Land, over here.

8           And so there was a fire, and as the text

9  describes over here, that the microgrid detected the outage

10  due to the fire, the utility de-energized the area.  But

11  the microgrid detected the outage and islanded and kept the

12  microgrid facilities, including a local emergency response

13  center from experiencing a blackout.

14           No power was exported outside the microgrid.  The

15  microgrid automatically reconnected to the grid when grid

16  power was restored.  This was all done automatically and

17  transparently as part of the standard operation of the

18  microgrid.

19           Okay.  So these two maps, Figure 25 and 26 just

20  to reiterate, they highlight opportunities to dig deeper

21  and consider whether it makes sense to design a microgrid

22  for local areas to make sure the critical facilities in the

23  area have clean energy to continue to operate in the case

24  of a local outage.

25           Okay. So next is Kaitlyn.

 1          MS. LUND:  All right.  So we're just going to go

 2   a bit below, so we're going to use the wheel to scroll

 3   down.  And again, as Pam taught us, and I have stated,

 4   we're just showing you the highlights from the Tracking

 5   Progress Report.  And just showing you that the ones that

 6   really tie in with the message and the key points of the

 7   indicators from the Energy Equity Indicators Tracking

 8   Progress Report as well as the ones that have really fun

 9   and interactive maps.

10          So this one is specifically California clean

11   energy jobs by county, again, so this is a different

12   indicator for clean energy jobs specifically.  So I'm going

13   to pull down the legend just to show you what we're looking

14   at.

15          So this kind of shows you the colors of the dots

16   and what they mean.  So clean energy jobs total, the total

17   number that's in each county, are shown by the orange dots

18   and so the bigger they are the more jobs there are.

19          And then as we scroll down we see the purple

20   dots, which are the percent of clean energy jobs by

21   population per county, so according to the population, not

22   just the total number.  You scroll down again and you see

23   that we do again have that green baseline of the less than

24   60 percent of the statewide median household income.

25   That's showing our low income.

1          And specifically to know as in this clean energy

2    jobs figure as compared to the electric vehicle one that

3    Pam had discussed before, there's a lot of layering of

4    colors.  So you see a lot of pink dots everywhere.  So

5    specifically in Orange County there's a pink dot.  However,

6    I just showed you there's only purple and orange.  So this

7    is showing --

8          MS. DOUGHMAN:  Santa Barbara.

9          MS. LUND:  Santa Barbara, okay.  Pink here,

10   sorry, so pink dots here as well as in Santa Barbara dots

11   showing the layering of those two colors.  So the orange

12   and the purple that are layered on top of each other to

13   make the purple.

14         So what this is specifically showing us is clean

15   energy jobs are important, because they produce more jobs

16   compared to the fossil fuel industry.  And they further

17   encourage economic development within each of those

18   counties.

19         And this is pretty much showing that the number

20   of clean energy jobs total per county, is not exactly

21   matching the number per person, according to the population

22   of each county.  So I'm going to specifically highlight

23   certain areas where it looks a bit different.

24         So I'm going to go into Fresno in order to show

25   where the orange dot is bigger than the purple dot, which

1  is why there's a pink dot in the middle.  So I'm going to

2  use this search bar again.  I'll zoom in right to it.

3           See that dot, so the orange is bigger.  So that's

4  showing that the community jobs total in that county

5  compared to surrounding counties is larger.  It's pretty

6  large.  And then the pink dot in the middle is just the

7  layering of the orange again in the purple.  So that's

8  showing a smaller amount of jobs, by population.  So if I

9  click on it, it'll show me hopefully.  So the name it'll

10  show you in the little box that comes up, Fresno, the total

11  number is about 8,500 clean energy jobs.  The population,

12  however, is almost a million.  And then the clean energy

13  jobs per a thousand people is 8.71, which is showing us at

14  the bottom that's only 0.87 of clean energy jobs by

15  population percent.

16           So in this area specifically of Fresno, where the

17  total number is greater than the per capita number, this

18  needs a bit more local hiring and job creating as well as a

19  bit more workforce development on the local level, in order

20  to expand how many there are, per, according to the

21  population of the county.

22           To look at a different one that's, the opposite

23  situation, where the purple dot is greater than the orange

24  dot I'm going to go to the home button.  That kind of

25  resets us as Travis was telling us about.  And I'm going to

1  look specifically at Glenn County.

2          So again, you can see that the purple dot is

3  bigger than the orange dot, which is making the pink color

4  in the middle.  So if I click on it, it shows me again the

5  same thing, so the name of the county is Glen and the total

6  clean energy jobs is about 700.  The population is about

7  28,000.  And it's a lot higher, the clean energy jobs per

8  thousand people.  So it's about 24 jobs, which is 2.48 jobs

9  according to the population, 2.84 percent, my apologies, by

10 population.

11          So this is just showing, this map in general is

12 showing however there in Central Valley you can see the

13 dots are a lot smaller in general for both total number of

14 jobs and jobs according to the population, so there's a lot

15 more opportunities to expand clean energy investment in

16 order to create more jobs in those counties.  And as well,

17 with the different sizes of the dots is showing you

18 opportunities to expand those opportunities, especially in

19 those low-income and disadvantaged communities where they

20 intersect.  As we can see in the Central Valley and even

21 Riverside there's just a lot more opportunities to expand.

22          And now, I'm going to hand off to Pam.  And she's

23 going to talk to you about a different figure.

24          Chairman Doughman:  Okay.  So there's a lot of

25 information here.  And so we're just highlighting key

1  points and then you can go back and explore later.  We're

2  just hoping to introduce you to all this.

3          Okay.  So this map is showing Energy Commission

4  electric program investment charge, technology

5  demonstration and deployment funding, through December of

6  2017.

7          We can see that many of the demonstration

8  projects are in the Central Valley, Southern California and

9  also Northern California.  And if I showed a legend here

10  you can see on this map we have the layers that were shown

11  earlier on Figure 3 and on top of that we have information

12  about the research demonstration projects.

13          Now, the EPIC Program is focused on benefits for

14  investor owned utility owned ratepayers.  So the locations

15  are in investor owned utility areas for the demonstration

16  projects.

17          The orange dots are showing those demonstration

18  projects that are located in a census tract within a

19  disadvantaged community.  And then if we scroll down here,

20  in the legend, we can see the blue dots are for

21  demonstration projects that are outside of a disadvantaged

22  community.

23          And one of the recommendations in the Barriers

24  Report was to have at least 25 percent of the EPIC

25  technology demonstration and deployment funding go to

```
 1   projects located in disadvantaged communities.  And the

 2   Energy Commission's EPIC Program has exceeded that target.

 3   I think we're at around 30 percent.  And also more recently

 4   in 2018 I believe AB 523 was passed and so the Energy

 5   Commission is in the process of implementing AB 523.  That

 6   requires that 25 percent of the EPIC funds for

 7   demonstration projects goes to disadvantaged communities.

 8   And in addition 10 percent of the funding for EPIC

 9   demonstration projects, administered by the Energy

10   Commission, should go to projects located in low-income

11   communities.

12           In addition, AB 523 has some other requirements

13   related to benefits for the communities where the projects

14   are located.

15           Okay.  So next is Figure 32

16           So most of the information in the Energy Equity

17   Indicators is focused currently on investor owned electric

18   utilities, going forward we plan to add information from

19   the publicly owned utilities.  And Los Angeles Department

20   of Water and Power is a leader in this area.  They have an

21   Equity Metrics Data Initiative that they use to identify

22   opportunities for investment and service improvements.

23           And on the left here, we have a link to more

24   information.  And then here on the right this figure is

25   showing the Los Angeles Department of Water and Power
```

1  service territory.

2         And if we look at the legend here we see that it

3  is showing the areas with the lowest participation, the

4  lowest 20 percent per capita for fiscal year 2015/2016 by

5  zip code that are located in Los Angeles Department of

6  Water and Power service territory.  And intercept with

7  census tracts that meet our definition of low income, which

8  is less than 60 percent of the statewide median income.

9         So we can see the green areas are -- this is an

10  area.  It's an LADWP area census tract with the median

11  income in the census tract of 60 percent or below.  And you

12  can see in this case, it's 49 percent of the statewide

13  median household income.

14         And then you can also see here -- let's see here.

15  So the orange dots are showing, highlighting the areas that

16  are opportunities for additional outreach, to raise

17  awareness of eligibility for the LADWP's Consumer Rebate

18  Program.  This is a program for residential energy

19  efficiency.

20         Okay.  So then let's talk a little bit about next

21  steps.  So work in underway to implement the

22  recommendations described in the Barriers Study.  And the

23  Governor's Office is facilitating progress to implement

24  those recommendations and state agencies are working

25  together to help implement.

1          And over the course of development of these

2    energy equity indicators, I would like to thank all of the

3    state agencies that provided input and helped us develop

4    these indicators.  Also, there were stakeholders that were

5    very helpful in giving us feedback along the way.  So thank

6    you.  As well as we had feedback from Los Angeles

7    Department of Water and Power and other publicly owned

8    utilities.

9          So going forward, as I mentioned, we plan to

10   expand the data available through these indicators related

11   to publicly owned utilities.  And as other data become

12   available then we will be weaving that in as well.

13          Okay.  So next let me give it back to Travis.

14          MR. DAVID:  Hello, this is Travis again.

15          I just want to mention data and technology

16   changes over time and with this system we can capture and

17   analyze each indicator when new data sets become available

18   and add them in.  We can develop tools with more analysis

19   capabilities for deeper analysis.  And we can develop more

20   intuitive applications, so that industry experts and

21   stakeholders have the tools they need to track changes over

22   time.

23          To give you a taste, we included a link to a

24   sample energy indicator application on the first slide.  So

25   I'm going to navigate to that on the left-hand side.  It's

1   this link here.  I'll click on the sample interactive

2   mapping application link and the mapping application opens

3   in a new window.

4          The difference between this application and the

5   web map shown before is this application is even more

6   interactive.  This app contains what are called widgets,

7   which are tools you can use to further dig into the data.

8   The widgets are down here at the bottom.  The legend widget

9   is the same as the legend in the mapping application where

10  it shows you what all the symbols mean.

11         The layers tool allows you to turn on and off the

12  different layers.  You can hold control and click to turn

13  all of the layers off and on again.  You can click on the

14  base map layer to add different base maps.  For example,

15  I'll add the imagery, so that you can see what the data

16  looks like relative to aerial imagery.  I'll zoom in on

17  Sacramento or I'll zoom in on this area.  And you can kind

18  of see.  It gives you an idea of what's actually in that

19  area, or I can zoom back out and click on this layer, which

20  has roads and other named locations.

21         There are analysis widgets.  I'll click on the

22  screening one.  And this tool lets you set an area you're

23  interested in.  For example, I'll make the area the City of

24  Long Beach.  It zooms in on this area.  You can set a

25  buffer distance around that point.  I'll set the buffer

1  distance to ten miles.  And then I can hit the report

2  button and it creates a circle around the Long Beach point

3  that's ten miles.  And it tells me all of the active

4  features below it.  So for example, this feature here is

5  the multifamily accounts.  And I can click on the plus

6  button and it tells me all of the multifamily accounts

7  within that circle and all of their attribute information.

8         I can easily make a report or download an Excel

9  file of this.  Here's the Excel file button.  And if I want

10 a report, I can print the print button and it quickly

11 creates a report of all of the active features with their

12 attribute information within that circle of your area of

13 interest.  So that just gives you an idea of how to use

14 that widget.

15        There is a chart widget.  I can click on it and

16 we set up one chart with emergency department visits due to

17 asthma by county.  I can click on it and it creates a table

18 of all the counties in the ER visits due to asthma layer.

19 And if you can see, the County of San Bernardino,

20 Sacramento and Alameda have the most emergency room visits

21 due to asthma.  So it's a quick way of interpreting the

22 data in graphic form.

23        Oh yeah, I also want to highlight part of that

24 chart.  It highlights the area on the map that you're

25 interested in.

1          There's a print tool, which is here, which allows

2    you to create a PDF or an image of the map you're looking

3    at and download it.  I won't wait for it to process.  I'll

4    give you the data.

5          And then there's also a sharing widget that lets

6    you share what you're looking at through your Face book,

7    Twitter, or post to a web page; the more collaboration on

8    this project, the better.

9          There are a number of other widgets that could be

10   added.  There's a whole world of data out there.  I'm

11   excited to see where the Energy Equity Indicator Project

12   goes in the future.  And Pam can take it from here.

13          MS. DOUGHMAN:  Okay.  So I want to thank Kaitlyn

14   and Travis for their help with this.  I also want to thank

15   Akua McLeod who was our student intern last summer who was

16   instrumental in helping move this effort forward.  Also

17   there are staff in many divisions of the Energy Commission

18   that were very helpful.  Thank you.

19          So I want to open it up for questions.  Do we

20   have any questions?  Any questions on the chat?

21          Okay.  So we do have some questions.  Kaitlyn,

22   would you like to go read the questions?  There's a

23   microphone over there.

24          MS. LUND:  The first question is from Ilonka

25   Zlater (phonetic) And just let me know if I can't pronounce

```
 1   her name, to the host saying for Figure 11 specifically is

 2   the question, "Is this only for investments funded by

 3   utilities?"

 4          MS. DOUGHMAN:  So let's go to Figure 11.  Yes,

 5   this is only showing data from the California Energy Data

 6   and Reporting System, so that's only showing the investor

 7   owned electric utility data on this map, because we are

 8   focusing on energy efficiency, mainly electric efficiency

 9   investments.

10          MS. LUND:  And question two is from George

11   Nesbitt saying, "It would nice if you could choose which

12   layer to view (low income/percent of old homes/percent of

13   disadvantaged, etcetera.)

14          MR. DAVID:  Yeah, so that's part of our next

15   steps.  We're going to be developing more intuitive, more

16   functional applications.  We can add that into the Story

17   Map eventually, but that's where the widgets come in.

18   Instead of just web maps that have the ability to pan

19   around and zoom into and click on things there's a number

20   of widgets that come with the ArcGIS that we used to

21   develop this that can be added.  We just need to take the

22   time, now that the data is in the system, to figure out

23   what widgets are best.  And from what you're saying it

24   would be the layer of this widget, where we could developa

25   web application that has all of the layers.  And then you
```

 1   would have the ability to toggle on the layers that you are

 2   interested in that suits your analysis and then other

 3   layers like other widgets, like the screening tool, that

 4   allows you to extract the data that you're most interested

 5   in.

 6          MS. DOUGHMAN:  And I'll just add, this sample web

 7   app does have some of the layers here.  So we do have some

 8   functionality.  In particular we have CEDARS residential

 9   energy savings here.  Can you just change it, so that's the

10   only layer you can see?  For example.

11          MR. DAVID:  Yes.  And I can click on it and then

12   it brings up that information.

13          MS. DOUGHMAN:  Okay.  Great, the next question?

14          MS. LUND:  So the next is from Alexandra McGee.

15   She says, "I apologize for the ignorance on my part, but

16   why does not running the AC trigger asthma?  Because the

17   asthmatic overheats?"

18          MS. DOUGHMAN:  Well, I think it's related to

19   indoor air quality.  And that there may be -- there has

20   been some studies that are showing that improved energy

21   efficiency and improved HVAC systems can reduce asthma.

22          And actually in the Tracking Progress Report, can

23   I just click?  We have this as the interactive version,

24   interactive storing that, that's what we've been

25   highlighting here.  But we also have a PDF of a more

1  traditional Tracking Progress Report, which has some

2  additional, more detailed discussion.

3          And let's see if I can quickly, let's see, so for

4  example this highlights some of the key findings by

5  geographic region.  And then it goes and it has the maps.

6  And here, this is what I'm looking for right here, let's

7  see if I can zoom in a little bit.

8          Areas with poor air quality such as the San

9  Joaquin Air Basin in Central California experience high

10  numbers of asthma-related emergency.  Such areas may

11  experience periods with little mixing of air between

12  altitudes and serve as major traffic corridors for

13  passenger vehicles and freight.  A 2015 supported by the

14  California Air Resources Board reports asthma-related

15  hospital visits are elevated in populations living near

16  areas with high traffic-related air pollution.  This

17  information is useful for targeting areas to implement

18  clean vehicle and sustainable freight programs as well as

19  energy efficiency upgrades.

20          Okay.  Thank you.  Next question?

21          MS. LUND:  So again from Ilonka Zlater,

22  "Congratulations on creating this incredible tool.  I'm at

23  the Climate Investments Program at CARB and I can think of

24  at least a dozen people across agencies in the various

25  investment programs that I'm going to contact directly, to

1   make sure they know about this.  I would be interested in

2   knowing who your team has been interacting with at the

3   different investment agencies.  Please follow up with me

4   (indiscernible).

5

6         MS. DOUGHMAN:  Thank you.  We'll be happy to do

7   that and we will be happy to continue.  We can send you the

8   contacts we've been working with and we're happy to work

9   with additional people at the various agencies.

10        MS. LUND:  And there's Pam jumping up and down.

11  (Laughter.)

12        MS. DOUGHMAN:  Okay.  Anymore questions?  Any

13  questions?  Okay.  So then just to close let's see here.

14  So for those who may have joined a little late, I'm just

15  going to walk through again how do you find this?

16        So if you're at the California Energy

17  Commission's homepage and then you go to the Barriers Study

18  link here, and then from this page we have added links to

19  the Energy Equity Indicators Interactive Web Maps.  And

20  then from this page, we have the story map.  We have a link

21  to the Low-Income Barrier Study.  We have a story map,

22  that's the interactive map we've been walking through for

23  this webinar.  And then we have the Tracking Progress

24  Report.  That's a PDF with more detail.

25        And then we have, this is the interactive app

1   where you can turn the layers off and on.  And then you can

2   view this in a larger map.

3           So that's a summary of how to find this, so you

4   can continue to explore.  In particular, I'm a big fan of

5   the widgets.  I think they're really, really great thanks

6   to Travis for that.

7           And so we are accepting written comments.  Please

8   submit your written comments by July 11th by 5:00 p.m.  And

9   instructions for submitting written comments are in the

10  notice.

11          So there's one other page that I should highlight

12  for you and this is the location of the notice.  So this is

13  part of 2018 IEPR Update, so there is you can find links to

14  this information also from the web page for the documents

15  for the 2018 IEPR Update.  So here we are on the documents

16  for the 2018 IEPR Update and then if you click on June 27th

17  and that's for this webinar, then you'll see you can submit

18  comments by clicking here.  You can look at the notice and

19  then there's instructions there to explain how to submit

20  comments and the due date.  And then we also have a link to

21  the Tracking Progress.

22          So thank you for participating and that concludes

23  our webinar.  Thank you.

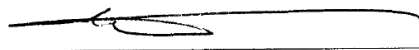24      (Whereupon, at 11:28 a.m., the webinar was adjourned)

25                          --oOo—

**REPORTER'S CERTIFICATE**

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 12th day of July, 2018.

PETER PETTY
CER**D-493
Notary Public

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I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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IN WITNESS WHEREOF, I have hereunto set my hand this 12th day of July, 2018.

_____

Myra Severtson
Certified Transcriber
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