

Hot City, Cool Surfaces

Slide 1: Title Slide

Victoria Ludwig: Our final speaker-practitioner is going to speak about the experience of Los Angeles. David Fink is the Director of Campaigns at Climate Resolve which is a non-profit environmental group based in Los Angeles. Prior to his time at Climate Resolve, David worked as a consumer advocate and also helped run statewide ballot measure campaigns in multiple states. David, thanks for joining us and you can begin now.

David Fink: Great. Thanks so much and thanks for having me today and thanks, everyone for listening in. So yes, open up here. OK. So here we go, OK. So my name is David Fink, I'm the Director of Campaigns at Climate Resolve. We are a non-profit environmental group based in Los Angeles.

Slide 2: Climate Resolve

David Fink: And you'll see here, our mission is to make Southern California more livable and prosperous today and for generations to come by inspiring people at home, at work and in government to reduce greenhouse gas pollution and prepare for climate impact. So slightly misleading because we – although a lot of our work is focused on Southern California, we work at the state level here in California and we're working with a number of local jurisdictions throughout the state and even outside of California.

I just briefly want to talk a little bit about the work we do, and then I'll sort of move on, and two areas I just want to mention briefly. One of the things we do is we work a lot on climate messaging. So how do you talk about a climate change in a way that is relatable to people, that people understands who we work with, local governments, academic institutions, other non-profits on this.

And you know really, I don't want to talk too much about this. Maybe at the end if I have time, I'll go into this a little bit more and sort of through the psychology of it and everything but really, just want to hit on one main point which is you know, in talking about climate change which is absolutely a global issue, it's vital to talk to – bringing it down to the regional or local level, and relate it to people's day-to-day lives in a real and tangible way and offer solutions, and that's how people become engaged and understand how they can be part of sort of the solutions that are happening around them.

The other thing we do is we work on policies. So we work on legislation and campaigns, et cetera. And we do a lot of urban heat – or I'm sorry, climate change mitigation work but we're also very focused on climate at the patient, operating on sort of the premise that there's a certain amount of greenhouse gases that are already in the atmosphere.

So no matter how much mitigation we do today, if you're to pull the plug and stop emitting greenhouse gases 100 percent, there's still going to be some change. We're on a certain trajectory and it will take time for that to ark. It will take time for it to start to level off. And so, we need to make investments today that prepare us but not just prepare us for the change that's coming but also, have the benefit of the mitigation side.

Slide 3: Regional Heat Impacts

David Fink: And moving on to next slide. So here in Los Angeles, back in 2011, our previous mayor, Antonio Villaraigosa used some – our funds to commission UCLA to do a series of studies on the future impacts of climate change in Los Angeles. So what are the impacts going to be in Los Angeles between the years of 2014 and 2016.

The first of these studies came out in 2012 and was based on temperature. And so you'll see the slide here, there are parts of the city Porter Ranch which is in these Northwest corner of Los Angeles. The number of extreme heat days which are days of 95 degrees and above are going to go from eight to 30. In Solomon, the northern part of the city from seven to 25 and Woodland Hills from four to 16. So there are parts of the city that we're expecting to see an increase of extreme heat days by double, triple and in some parts, or quadruple.

So those are – that's really significant. Everybody knows what it's like when it's 95 degrees outside. Everybody knows how unbearable it is when it gets 100 and above. The other thing – the other important thing that came out of these series of studies is that the projected temperature increases are going to be four to six degrees throughout the city.

So I'll sort of circle back on that later but the really important thing here is again, bringing this down to the local level. You know not necessarily talking about this issue on a national or global level but you know again, people know what it's like when it's a 95 or 100 degrees above. These studies – these series of studies show what it's going to be like in every neighborhood and that type of information is something that's real and tangible and really sort of engages people and makes them want to start to make changes in their day-to-day lives.

And I want to point out, many of you probably saw the national climate assessment that came out a couple of months ago, and I thought they did a really good job of it's not just springing the issue but talking about regional impacts. So the studies that Maria was talking about earlier and the study I just mentioned that of UCLA which bring the issue down to – bringing impacts down to regional level.

Slide 4: National Climate Assessment

David Fink: Any part of the country you're in, if you go to the national climate assessment, you can click on your region and you can see what the impacts are going to be in your area. So I think that kind of information is really important in terms of informing not just the folks in your city, not just the citizens but also, local elected officials and policymakers.

Slide 5: Effects of Rising Temp

David Fink: So I won't spend too much time here. Victoria, Maria and Irene all hit on sort of the impacts of rising temperatures, greater peak electricity demand, more pollution, public health risk. And you all already heard about the heat impacts but I just want to put a fine point on this.

The number of deaths every year, the number of weather-related deaths, if you combine the number of weather-related deaths for all weather systems or all weather – all sort of weather types, so we're talking hurricanes, floods, blizzards, in a typical year, it's less than the number of deaths related to heat.

So heat is the sort of because – has sort of the biggest impact. And you know, heat is sort of the – is sort of the invisible killer if you will. You know the – with the hurricane – you know the hurricane is coming, you see the rains and the winds, the floods you know – if there's floods, you see the floods. Tornadoes, you see the tornadoes, you see the blizzard, you see the snow but heat, people underestimate the impacts of heat.

So when things heat up, people tends to not pay attention to sort of the, what's happening around them and this is part of the reason why it's such a – has such a great impact. And you know earlier, Victoria mentioned about how the urban heat island effect is actually worse at night and the reason for – one of the main reasons for that is all day long, the paved surfaces in your city are absorbing this radiant energy from the sun and when the sun finally goes down is when these surfaces finally release that heat. So there's less cooling at night.

Slide 6: Cool Roofs

David Fink: So the body is used to being able to cool itself more at night and when there's less cooling at night, it has this sort of greater impact. So here in Los Angeles, we recently passed a cool roof ordinance and just briefly, you'll see – most of you know sort of how cool roof works.

Slide 7: Benefits of a Cool Roof

David Fink: The – moving on, so the benefits of the cool roof here in Los Angeles – these numbers are based on Los Angeles. So residents will save money on the utility bills cumulatively up to \$30 million per year, decreasing greenhouse gas emissions to be put on a 40 metric tons of CO₂ per year, provide the healthier indoor environment, reduces likelihood of outages, aiding resilience and helps residents survive heat waves.

Slide 8: 2013 LA Ordinance

David Fink: Our organization began working with our previous mayor, Antonio Villaraigosa in January of 2013. And in – on March 13 of 2013, he directed the Los Angeles Department of Building Safety to write new building code regulations requiring residential cool roofs. The following month, the Los Angeles Department of Water and Power expanded an existing cool roof rebate.

So I just want to note, while we do have a rebate for cool roofs, I do not think a rebate is a necessity or even necessary. Los Angeles decided to expand the rebate because Los Angeles sort of – is sort of an earlier adopter in this area, but as I'll talk about in a minute, there are hundreds, if not over 1,000 products, cool roofing products that are cost competitive with a typical roofing product.

So the idea here in L.A. is that the – a year from now, the department will sort of reassess the market and potentially phase out the rebate at that time. And lastly, as we work through the city process last year, December 17, Los Angeles City Council unanimously approved the residential cool roof ordinance.

Slide 9: LA's Cool Roof Ordinance

David Fink: So before I talk about the ordinance, I want you to notice on the left, that is a picture of a cool roof. There's this misconception that a cool roof is just a white roof, it's a roof that is blindingly reflective. And today, there are like I said, well over 1,000 cool roofing products, many of which looks just like your typical roofing product.

You know the first thing I hear from folks when we take them out to a site where there's a cool roof is, it looks just like a regular roof which is exactly what you want to hear. So here is sort of the main part of the ordinance, and the ordinance applies to all new constructions and to re-roofs where the reroof is 50 percent or greater of the square footage.

You'll notice there's a few exceptions and in the bottom table, I just want to point out, thermal emittance and solar reflectance. Those are the two ways that a material is tested for its cool properties. So thermal emittance is the efficiency with which a material cools itself, and solar reflectance is a material's ability to reflect sunlight.

Slide 10: Cool Roof Rating Council

David Fink: The – again, I mentioned that there are well over 1,000 cool roofing products available. If you go to the cool roof ratings Council Website, you can see them, you can see the prices, you can see what they look like. The Cool Roof Ratings Council is a third-party independent rating rater. So they rate products. They are the only organization right now who does this for roofing products.

Slide 11: Cool Pavements

David Fink: Here in L.A. we've also been working to develop a cool pavement material the city can use in its asphalt slurry. So we've been working with Lawrence Berkeley National Lab, the Bureau of Street Services, a pavement manufacturer to develop this material. The – we've done a series of pilot projects. We're going to be doing another pilot project coming up in the next couple weeks.

We think we're very close to having a material the city can use, a material that meets sort of all the necessary standards. So there are materials that are already available that can go down in

parking lots and sort of a low traffic road but in terms of your very high traffic Boulevard, there are not a lot of materials out there that's why we're working to develop a new material that is durable enough and has sort of the property coefficient for breaking and safety.

And so, we were – like I said, we're sort of in the process right now. The next pilot will be going down in the next couple of weeks and hopefully, we'll have something ready by the end of the year. And sort of you know – lastly, I just sort of want to talk generally about sort of our approach and the approach we've been working with a number of cities on.

Slide 12: Cities of Tomorrow

David Fink: And you know, some of the ways we sort of talk about it is you know, instead of doing things the way we were in 1950, it's time to start building the cities of 2050. And you know, it's sort of not enough anymore when we're talking about systems, when we're talking about infrastructure building, it's not enough to build things that serve a single purpose.

So you know, talking about roads and roofs, it's not enough to build a road that just serves motorists, it should also have these other environmental and urban heat island mitigation benefit. You know it's not enough to build a roof that just serves as a barrier between the outside and the indoors. So it – you know any sort of systems were talking about, we are talking about infrastructure.

You know again, with the understanding that change is happening, change is coming and in most of our cities, it's going to be hotter and we need to start thinking about how our systems operate. And you know, sort of on a much broader spectrum, you know the way – you we're talking with – we're talking climate adaptation and the way we've – literally, the way we have survived as a species, the way we survive as individuals on a day-to-day basis and the way we survive as a society is to adapt to a changing environment.

Slide 13: Thank You!

David Fink: In the way we like to talk about it at Climate Resolve is you know, in the coming decades, we are not just working to survive but we want to thrive. And that's it for today, I want to thank you for your time and if anyone has any questions or would like to learn more about the work we're doing, please feel free to e-mail me and I would love to work together and see how we can assist you. Thank you.

Victoria Ludwig: Thank you, David. That was a great way to end your presentation because it's a great way to – a good final thought to the webinar which is that we want to – we don't want to just survive, we want to thrive. And that's what we're trying to do with the heat island program and other things that we do at EPA with local governments and state governments is really to improve the environmental quality of our communities but more than that, make sure that it's a healthy, prosperous place to live and that people are happy in the community. So it's really great to hear about what you guys are doing in Los Angeles. I commend you, and thanks for joining us.

Poll Question #4

Victoria Ludwig: We have one more poll question before we get to the Q&A session. So please let us know what you think about this question which is, which of the following do you find to be or anticipate being especially challenging when cooling your heat island?

You can choose all that applies. Is it understanding or explaining the benefits to leadership? Is it identifying feasible strategies? Is it designing and implementing programs and policies? Is it funding – finding funding and resources? Is it finding government, NGO and other partners? Please let us know what you think.

OK, great. Thanks for voting. Here are the results. We have the predominant – the highest number of people thought that the biggest challenge is finding funding and resources. Next up is the challenge of designing and implementing the programs and policies, and then after that, 39 percent thought that it will be most difficult to understand or explain the benefits to leadership, identifying feasible strategies is 28 percent and finding partners is 19 percent.

Well, I hope that you'll take a look at EPA's resources. We do have suggestions for all of the above and we're here to help you with your challenges. Thanks for voting, that's the last poll question.