

Gaslit Nation
Climate Crisis Special

Andrea Chalupa
Sarah Kendzior
Daniel Zarrilli

Theme music

Sarah Kendzior: I'm Sarah Kendzior. I'm a journalist, a scholar of authoritarian states focusing on the former Soviet Union, the author of the book *The View from Flyover Country*, and the upcoming book *Hiding in Plain Sight*.

Andrea Chalupa: I'm Andrea Chalupa, a writer and the screenwriter and producer of the upcoming journalistic thriller *Mr. Jones*, and this is *Gaslit Nation*, a podcast covering corruption in the Trump administration and the rise of autocracy around the world. Today we have a very special episode where we walk you through how to write a horror screenplay. It's very simple. All you have to do is show these little ominous signs of danger. Just little tidbits of danger. Sort of like it when you watch *Rosemary's Baby* and you have like that creepy older couple that seems really nice but something's off. That's called foreshadowing. So right now we're living in an age where you could easily identify with what it's like to live in a horror film, because all of us are living in a horror film filled with foreshadowing, and that is of course the climate crisis. If you see these monster storms that we have, these fires in California, the climate refugees that you're seeing as a result of these storms and fires, like in Puerto Rico, as one big, huge, catastrophic example, this is all foreshadowing, because guess what? It's going to get exponentially worse, according to all the experts who've been trying to warn us especially for decades. This is *Screenwriting 101* for horror films: foreshadowing, followed by the act three of the devil being unleashed and total, absolute chaos. Because what we're looking at is if we don't listen to all the reports telling us that we have to keep global warming at 1.5 degrees Celsius, which means we need to cut carbon pollution by 45% by the year 2030, and down to zero by 2050, if nations, if communities across the country, if counties, if mayors, if governors, if candidates for political office, if all of us don't make this first and foremost in our minds, in the work we do, then it's over for humanity. Nature will just be fine. The planet will be fine, but the species will get wiped out. And if you're okay with that, understand that that's apathy, and apathy is another form of evil. And it's not up to you to sentence me to death or Sarah to death or Greta Thunberg, or anyone's child to death, and you'll be doing that if you choose to take the road of apathy and despair. So instead, all of us need to fight like a generation fought the Nazis during World War II. We all need to stand up to this threat. It's an existential threat. And what we're looking at is not only an incalculable cost. You could say, sure, several billions. It could be trillions of costs, but also the worst refugee crisis that human history has ever seen. You're going to see massive amounts of displaced people because of rising sea levels, and a whole catastrophe of conditions that come out of the climate crisis. So I cannot stress enough that this episode today where we speak with a superhero who's working on the frontlines of the climate crisis, Daniel Zarrilli, the chief climate policy adviser to New York City's Mayor Bill de Blasio. He is going to walk us through his work working with mayors around the world to try to counteract the destructive agendas of governments like the Trump administration and so forth, and what they are doing, what progress they are making in confronting the climate crisis and getting some results that can save humanity. Because the reality is we are too late, and a lot of the work that Daniel Zarrilli is doing is helping New York brace for

impact, because the big monster is coming. We are too late to stop the monster. So really the work we all need to do as a species right now is to shrink the size of the monster, make the monster more manageable to handle, because the monster is coming.

Sarah Kendzior: Oh yeah. We should say, we're taping this on June 9th. You will know by the time this episode airs why we taped so many episodes in advance, but currently in my state in Missouri, we're having record flooding, and that's true in Illinois and Arkansas and Oklahoma, in all of these states and the center of the country, and it's wiped out crops. It's wiped out homes. It's displaced families, and so this is a non-partisan crisis. This is not just a matter of the coastal cities will plummet into the sea. There is no region that's going to be spared this. There is no region that's going to be spared all the social and political effects of this, including as Andrea was just saying, a forthcoming refugee crisis, which is probably going to be unparalleled to anything that we've seen in history. What we need to do is to be upfront about it, is to educate people about it. One of the depressing things from this week was the refusal of the DNC to hold a climate change-themed debate, and I hope by the time this episode airs maybe they will have changed their mind on that, because every important social and political issue is connected to climate change: the economy, immigration, healthcare. All these things that the Democrats say that they want to stress and that of course they should be stressing. You cannot extract them from climate change, and you also cannot extract the rise of autocracy worldwide from climate change, and from reallocation of resources, and from resource hoarding by autocratic regimes. They are going to exacerbate this crisis, and they are going to exploit this crisis. On Gaslit Nation, we're known as a show that talks primarily about dictatorship, but we need to look at environmental catastrophe as linked to that, particularly as the crisis worsens, so we're going to continue doing that throughout the year. This is our first episode I think solely focused on this issue, but it's not going to be our last.

Andrea Chalupa: Absolutely, and Gaslit Nation declares the 2020 election the election of the climate crisis.

Sarah Kendzior: Indeed.

Andrea Chalupa: If you are a candidate running for any office anywhere in the United States, the climate crisis has to be a key part of your platform, or else you're giving yourself away that you don't believe in facts, you don't believe in science, you do not believe in moral courage, and you rather further the mass murder of species.

Sarah Kendzior: You're saying you don't believe in us. You don't believe in our children. You don't believe in our children's children. You don't believe in our future, and we want to vote for candidates and we want to support people who do, and who are willing to fight, and who are willing to come up with comprehensive plans and solutions. We're not going to take no for an answer on this.

Andrea Chalupa: Yes, and we have great ways to get involved with Dan's work, which we're going to link to in the show notes of this episode, as well as in our Action Guide, which you can find on GaslitNationPod.com. Again, none of us can afford the luxury of despair. You can feel frustrated, but channel that frustration in doing the essential work to literally save the species and save all the animals out there as well. We need to stop losing endangered species, and we need to just use our very large sophisticated brains as humans. We do have them, and they're an untapped resource, and we can turn this around instead of living out an actual horror film.

Music

Andrea Chalupa: So I am very excited. I am starstruck more than usual today in this interview, because I'm talking to a real-life superhero, Daniel Zarrilli, who is the climate czar for New York City, and this is a very huge opportunity for all of us to understand the nuts and bolts and really where we are right now, and what to do about it about the climate crisis. But also, Daniel's work: his story is an example of the importance of cities across the nation, around the world, and American states right now to counteract the literally toxic, deliberately toxic agenda coming out of the Trump White House. So this is a story of hope. It's probably gonna break you down and terrify you before it gets better, but we're going to be in this together. So I'm honored and I'm so privileged and thrilled to have some of your time given how the fate of our planet rests in part in the work that you do, Dan.

Daniel Zarrilli: Thanks. It's a real pleasure to be here, and I think it's such an important topic to be thinking about, and bringing to as many audiences as possible, and the risks of global warming are going to affect everybody, and so it's really important that we're talking about this.

Andrea Chalupa: Just in terms of language, global warming: can we call it climate crisis now?

Daniel Zarrilli: You know, I think they're all good in lots of different ways. It is the burning of fossil fuels that is causing global warming that is ultimately leading to climate change, and really the evolution of language that people are really going through right now talking about it as an emergency, as a crisis, as a climate breakdown, I think is evocative and helps people understand what we're talking about, because this isn't just some natural cycle that's going up and down. This is literally because of the actions of humans on this planet, and in many cases the actions of a very small number of fossil fuel companies that are causing this climate crisis that we're all facing right now.

Andrea Chalupa: The fossil fuel companies, the big oil companies that the city itself that you are part of tried to sue.

Daniel Zarrilli: We are actively suing. We are still in court. We'll be in front of the appellate court sometime later this year. We are actively looking to protect New Yorkers from the risks that we're facing, and that means going after the cause of this crisis that we face, and we know that the burning of fossil fuels has caused this. The big oil companies went through a decades-long campaign of deception and denial to hide that fact, and continue to push the expansion of fossil fuels into our economy, and we are now stuck with the impacts. Seas are rising. It's getting hotter. That's going to cause all sorts of instability, like food insecurity, conflict migration, and any number of other social changes that are going to be coming from this.

Andrea Chalupa: And we're of course long past already seeing it. The hurricanes are becoming even more monstrous, the fires, all of it.

Daniel Zarrilli: That's right. I think it's Al Gore that talks about the nightly news being like a daily walk through the Book of Revelation. It's evocative to think about all these different impacts, and whether it's yes, we saw Hurricane Sandy here in New York City, and that killed 44 New Yorkers, 19 billion dollars in damages. It was the worst natural disaster that

ever hit here. But we've seen it in the wildfires in California. We've seen it with the intense rain from Hurricane Harvey in Houston. We saw the devastation in Puerto Rico from Hurricane Maria. All of this, and that's just in the United States. And the impacts in Mozambique, and we've seen impacts all over the place recently. Japanese heatwaves, everything, that is just showing that there is no more normal. It's not even a new normal that we're in. We're in a constantly changing climate that's going to continue to threaten everything. We've never lived through a time like this where carbon dioxide is at these levels where they are now. The last time they were at these levels, there weren't humans. So we don't know what this looks like. We're all heading into uncharted territory here.

Andrea Chalupa: When I was studying screenwriting, I read *Beasts of the Southern Wild*, which is a stunning film about, of course, Hurricane Katrina, the aftermath and the floods, and it took on biblical proportion. And then right after finishing reading that script, my husband and I took like an anniversary boat ride with a bunch of tourists in New York Harbor, a sailboat. And the sailor, the captain of the sailboat said, "You know, I've been sailing for over 30 years. The currents are changing, and I've never in my life seen them change this way." And it was just this horrible—it was not a relaxing boat ride, to say the least. It was ominous. So it's all around us. It's in our face. It's like Mother Nature's like grabbing us by the collar and just saying, "Enough already."

Daniel Zarrilli: That's right, and too much of the conversation on climate sort of devolves into whether it's a partisan issue or not, or whether you believe or you don't believe, and let's just be clear: the science is incontrovertible. The climate is changing. It's coming from fossil fuels. What we keep seeing out of the climate panels, the Intergovernmental Panel on Climate Change out of the U.N. recently put out a report on what it will take in order to head off some of the worst catastrophe and actually limit ourselves to 1.5 degrees Celsius of warming, and it's a really dramatic drop in fossil fuel use that has to happen now. The National Climate Assessment, which the Trump administration tried to put out on Black Friday, tried to bury it on Black Friday, well that failed. It actually got probably more attention than it even would have gotten, because they were trying to hide it. And the New York City Panel on Climate Change, which came out in March of this year, all telling a similar story, at the global, at the national, at the local level that we have changed our world and it's leading to rising seas. It's leading to more heat. It's leading to more rain, and all of this is just pure science at this point. It is not really up for debate. What's really, I think, up for debate is what we're doing about it, and are we doing enough.

Andrea Chalupa: We'll get into that, but I want to first talk about how to reach over to the other side of the aisle and help wake people up, and a lot of that is "the economy, stupid," you know, hitting them in their wallet. Could you talk about the economic impact if we don't do anything about the climate crisis?

Daniel Zarrilli: Yeah, let me just give you an example here from New York from 2012 when Hurricane Sandy hit. Again, it was a 19-billion-dollar event in damages and lost economic activity. Well, we did some simple modeling that didn't change anything about the city, didn't change anything about anything but the climate. We were able to do some modeling that showed a Sandy-like event that hit in the 2050s would be a 90-billion-dollar event, just from the greater damage that we would see without even escalating the dollars into future dollars or anything like that. And so it goes to show you that we've hit a tipping point, and we're at a really pivotal moment where we are locking in changes, and if we don't change our behavior we're going to see that across the entire economy.

Andrea Chalupa: Me as a voter, let's say in Ohio, like everyone wants Ohio in the presidential election. As a coveted Ohio vote, how would you convince me? Let's say I'm one of those independent voters. How would you convince me in terms of sitting around my kitchen table of why I should care about this?

Daniel Zarrilli: Well, you know, I'm not necessarily going to pretend to be the political strategist for Ohio. It's a little out of my lane, but I think you're just thinking about the impacts that your kids are going to see, the changes that we've locked in, the world that they're going to inherit. Step back and think about what that means to you and what you're willing to do or how you're willing to change in order to make sure that you're securing a more livable future for the next generation for your grandkids. I think that's pretty compelling, and many of the climate stories I think that are most compelling to people are really when they become personal. It's not as much what's the parts per million of carbon dioxide, or how many feet of sea level rise we're going to see, or the dollar impacts across the entire economy, although I just went through all those. What's more compelling is continuing to burn fossil fuels means your kid is more likely to have asthma. It also means that maybe your house is more likely to flood. It's the things that actually hit you in your day to day that are—when you start to understand those things, it makes you start to think about what you're going to do differently.

Andrea Chalupa: Climate scientists have been saying no solution is too bold right now. You're linked in with the big global network cities across the U.S., as well as in states. You're with the people that have the solutions and are working towards solutions. In your opinion, given the landscape, the view that you have, are we being bold enough? Can we be bolder?

Daniel Zarrilli: Well, I think we all need to be bolder. For sure. We have set some really aggressive targets here in New York City. The globe has set some aggressive targets through the Paris Agreement and needs to deliver on the commitments from each of the nations in order to achieve those. But limiting global warming to 1.5 degrees Celsius is no sure thing at this point, and yet it's still locking in certain changes. It's locking in certain biodiversity loss. It's locking in levels of sea level rise that will be disruptive in their own right, and yet we can't let it go any further, and we're on a trajectory where we're actually heading towards someplace much worse if we don't change our behavior.

Andrea Chalupa: From what I've read in interviews you've given, we're already on the path to destruction, like it's coming, but the work you're doing is trying to limit that destruction, like stem it off, almost like a triage.

Daniel Zarrilli: We approach things here New York City on three different ideas. One is that we have locked in a certain amount of change, and so we do need to adapt and we need to think about our coastal communities and we need to think about heat mitigation and those sort of things. But that's not enough. We actually have to get to the root cause, and for us that means leading by example, cutting our own greenhouse gas emissions. We're on it on track to get to a 40% reduction in greenhouse gas emissions by 2030, to get to net zero by 2050. That is what the science demands if we're gonna be on this trajectory to get to 1.5 degrees as a cap, and that's no easy task, but we're retrofitting our buildings. We just passed the biggest action of any city, or anyone in the world really, with our building retrofit mandates that just passed last month in the City Council. We are greening our own fleet. We are expanding to mandatory organics composting here in New York City. All the sources of greenhouse gases we're trying to attack, and we're leading by example first and

then trying to bring that out to the wider city and send a message for the entire globe and really tell that story. And then the last piece beyond getting to our own greenhouse gas emissions is the work we're doing to hold fossil fuel companies accountable. Through our lawsuit, we're divesting our pension funds from fossil fuels. We're doubling our investments into climate solutions so that we can help spur the transition to a more renewable future.

Andrea Chalupa: President Trump comes to power and scraps the Paris Agreement. The U.S. just turned its back on it. Could you walk us through what the Paris agreement is? Which other countries are not part of it? I believe it's like Syria and Venezuela, right, are sort of the other two, I think?

Daniel Zarrilli: I think they're all in now.

Andrea Chalupa: Oh, they're all in? So the U.S. is the only one. The United States of America is the only one. That's not okay. Well.

Daniel Zarrilli: We are still part of the Paris Agreement. He announced his intention to withdraw. It takes a several year process to actually withdraw, and I believe the date to formally pull out is it's a few days before or a few days after the November elections in 2020. So if the elections go a different way, I think the next president would get right back in. The Paris Agreement itself is a non-binding agreement. It's a collaboration among nations with a set of targets: 2 degrees, stretching for 1.5 degrees as our targets for what we can limit the warming to, and each nation has to step up and every five years hopefully increase their ambition to get themselves onto that target. And so each nation has put together their nationally defined contribution. None of those, when you add them all up, are sufficient, but the mechanism in the Paris agreement is that every five years—and the next, that fifth year is 2020—nations will be coming back to hopefully ratchet up their commitments and continue to put themselves on that better path.

Andrea Chalupa: You as a city, your work, you said, "We, New York City, is going to do the Paris Agreement." That's what I remember.

Daniel Zarrilli: So the day after President Trump announced his intention to withdraw from the Paris Agreement, Mayor de Blasio the next day—literally the next day—signed an executive order committing New York City to the goals and principles of the Paris Agreement, directed our agencies to come together with a plan to achieve it, and 90 days later we released what was the world's first city Paris Agreement compliant plan, which is what we call our 1.5 Plan, and we put additional emphasis on getting those building retrofits done. We've accelerated the work to expand charging infrastructure for electric vehicles, and we're doing a whole bunch of other things to make sure that we are leading by example, and really using the fact that New York City is a bit of a privilege privileged place as the media capital, the cultural capital, the financial capital of the world to send a message to the globe.

Andrea Chalupa: That's right, Los Angeles! Cultural Capital: you heard it here. So could you walk us through your work in linking up with all of these other cities and states and sort of the resistance to the toxic Trump agenda?

Daniel Zarrilli: What was amazing was in the days after the president withdrew from the Paris Agreement and we signed our Executive Order committing ourselves to it, several

weeks later, maybe that number had been up had gotten up to about 400 cities, 400 mayors that have stood up and said, "No, we're still in. We are still part of the Paris Agreement. Doesn't matter what happens in the White House. We're still in." And the actual campaign of "we are still in" grew out of that. America's Pledge grew out of that. When you add up all the commitments that different cities and states and universities and businesses are putting together, we can nearly fill the American pledge to the Paris agreement just with those actions, and so we're all trying to continue to do more, but it shows you the power of other levels of government, of businesses, of universities, and others. We all need to play a role in this to begin with, and if I can even say, the silver lining is that before that action happened with the president pulling out, a lot of people thought that, "Well you know, the federal government has this under control and has it handled." The silver lining is that it actually did show that we need to do more. We need to come together at different levels of government and as cities and others to really be even more a part of this effort going forward.

Andrea Chalupa: Outside of New York City, which cities across the country do feel like are really leading on this issue.

Daniel Zarrilli: There's a lot of cities. We participate in a number of different networks, and whether it's the C40 Cities Climate Leadership Group, Climate Mayors, and others, you know, the big cities, Chicago and L.A., and of course there's Atlanta and Pittsburgh and Seattle and San Francisco—I can keep going—there are cities all over the country that are stepping up and continuing to demonstrate that they can take action. They are expanding their renewable power. They're expanding electric vehicles. They're doing work to upgrade their building codes, and they're continuing to really help get the nation on track with Paris agreement.

Andrea Chalupa: In terms of the individual and our responsibility obviously, you could recycle, you can compost. You can do a carbon audit of your home and your building and all of it. Could you talk a little bit about sort of how the individual can get involved in the work that you're doing? Because there is sort of a tension. I think some people feel, "Sure I can do all that, but it's just a tiny drop in an ocean, and that change has to come from an overhaul of our systems, and you need all this government leadership in order to do that and reforms." So there is that tension there between what can I do, I'm so outnumbered, versus needing that leadership from the top. So can you talk about a bit of that tension, and then also what can I do as an individual. Our listeners, what can they do starting today? Where could they sign up, or what are some steps they could take?

Daniel Zarrilli: There really is a debate that goes on in the climate community over is it personal behavior change that we need to really solve this, or is it systemic change that we need? And the clear answer obviously is that we need both. I think that the more people are willing to take personal behavior change, to think about their own behaviors and to make changes in their own lives, I think that builds the support for systemic change, but that doesn't let off the hook policymakers and elected officials and others that need to do the hard work of changing the way our energy grid works or looking at how transportation and buildings are built and used across the nation. There are clearly big solutions that can only happen at the state level or at the national level, and in some cases the city level. But I really do think that it's people getting involved and seeing their own part and being willing to make a change that helps build the support for those bigger changes that need to happen systemically.

Andrea Chalupa: I have seen over the years veganism, for instance, being this fringe thing, and now it's a mainstream movement. We have all of these wonderful vegan chain restaurants, and I've been traveling to Eastern Europe for over a decade now and I can tell you, Warsaw, Poland has some of the best vegan restaurants in the world, and Eastern Europe is known for like meat and potatoes, meat potatoes like every meal. And here you have a probably the number one restaurant in all of Warsaw is a vegan sushi restaurant, and it's delicious. I've seen that. We've all seen the evolution of more people choose giving up meat. Like you said, the systems change, so we do make a difference based on the choices we as individuals make.

Daniel Zarrilli: That's absolutely right, and it's also, it doesn't necessarily have to be all or nothing. You know, in New York City we have a Meatless Mondays program in our schools and hospitals, and it doesn't mean that we need to totally cut things out of your life 100%, but every little bit of warming matters, and therefore every bit of whether it's beef consumption or whether it's your fossil fuel use, that matters, too. Doing things less can add up, even if it doesn't feel like it, or if it's a drop in the bucket. If other people are doing that, that has larger—you know, you add it up and it has a big impact.

Andrea Chalupa: Are there specific initiatives that you guys are doing, that your network of colleagues are doing that individuals can sign up to help with?

Daniel Zarrilli: Yeah, we have a great program called GreeNYC. It has social media handles and has a website, and people can take a pledge. In some cases, it's "Bring Your Own," it's the bring it campaign. Bring your own bottle; bring your own coffee mug instead of using single use plastics and throwing away plastic bottles and those sort of things. Better just to have a reusable cup and container. You can actually sign a pledge and you can do that in your own life. We have all sorts of training on organics composting that our sanitation department does for anyone who has access to a side yard or something where they can do composting. New York City alone, I think, is—just by living in New York City—we have a third of the per capita emissions of anywhere else in the country just because of the density of where we live, and the fact that we have a mass transit system, even if we complain about it a lot. It still means that we are able to use a train instead of driving everywhere that we go like a lot of other cities. So part of it is just being in New York City is a great answer to that, but also there are more things you can do to eliminate single use plastics that are based on petroleum. You can compost, and we have a whole bunch of other things that you can sign up for through that GreeNYC program.

Andrea Chalupa: I hate plastic. We're all so dependent on it. Are there any solutions that have crossed your desk on how the hell we rid our planet of plastic? How do we phase it out? How do we fit—because it seems like such a big market opportunity for competitors to plastic to come in and say here's all this biodegradable, fertilize your garden alternatives to plastic that are just as durable and reliable. Have you seen anything like that coming on the horizon? Any potential?

Daniel Zarrilli: Definitely. In fact, the mayor recently signed an executive order that we are banning the city's purchase of unnecessary single use plastic foodware. So where we were spending money, whether it's in the schools or in our corrections facilities or in hospitals, all this extra plastic—forks and spoons and knives and plates and cups and things—we are going to be working with those agencies. They're developing a plan to shift to compostable alternatives. We're going to be ending our use of those plastics for city use, and then we're going to work with the city council to introduce legislation to make that

all across the city, just like we've done with Styrofoam. We've gotten there with bans on plastic bags, and we're looking at foodware next.

Andrea Chalupa: So New York City's had a great burst of entrepreneurship, and there's all these campuses and things, and workspaces. Can't you have the mayor do a contest of, "I want someone in this city, and we'll do tax incentives that Amazon could only dream of if you can just create a plastic killer. We'll give you whatever entrepreneurship resources you need." Can't you guys do you like a plastic killer competition for entrepreneurs?

Daniel Zarrilli: I love it. You know, we have a program called NYCx, where we go out looking for new technology solutions, and we've run some on electric vehicle charging solutions, and we've had some really good success doing that. The city has had really great success doing competitions like that, and if we can figure out how to do the plastic killer one, we'll give you credit.

Andrea Chalupa: Thank you. I don't want the credit; I just want to kill plastic. Anyway. The Green New Deal. New York City just signed on with the Green New Deal. We're hearing so much about that. That's the big buzz word, and there's this whole nationwide grassroots campaign springing up around that. Could you walk us through what is the Green New Deal?

Daniel Zarrilli: The Green New Deal at the national level, of course, is the resolution that was introduced thinking about how we can bring our national ambitions in line with the scientific realities, and at the same time think about a just transition, and make sure that we are getting to this place in a way that creates jobs and deals with the social equity challenges that we have in our society. The Green New Deal for us here in New York City is in many ways already underway, and with the work that we are doing through our One NYC program, which is the city's strategic plan that we've really brought forward as New York City's Green New Deal, we're working to confront our climate crisis, to achieve equity and strengthen our democracy, and it is a comprehensive approach. It's anchored in things like the building retrofit mandates, which is going to dramatically cut greenhouse gas emissions from our building sector, which is our biggest source of greenhouse gases here in New York City. We know it's going to create at least 25,000 jobs by 2030. So it's dealing both with the need to cut greenhouse gas emissions to create jobs and to pull that package together in a smart way, but we're doing other things as well, and the work that we're going to be doing to continue to upgrade the standards and to band the glass buildings that are energy inefficient in New York City, the expanded mandatory organics composting, and then all the things we're doing to prepare for the risks of climate change, and the flood protections, and the heat mitigation. The work that we're doing to make sure that how we get there matters, and that's why our Green New Deal includes things like the city's commitment to guaranteed healthcare for New Yorkers. It's why we talk about the need for equity and excellence in our education system and in our schools. And it really is a comprehensive approach that we're putting forward and we're already moving on here in New York City.

Andrea Chalupa: In terms of buildings, I know that part of what you just passed was the retrofitting of buildings and it's now, the onus I believe is now on whoever manages the building, the condo boards and so forth, to make sure that they have energy efficiency, they have the right windows and all of that, and obviously those solutions for a city like New York City can be transferred to any city anywhere. Could you walk us through what

we now need to do and what people anywhere wherever they live should be doing to their buildings?

Daniel Zarrilli: Yeah, sure. So our retrofit mandates applies to buildings over 25,000 square feet, so some of the largest buildings, which ends up being some of our largest polluters in New York City. We've set hard targets that they need to meet by 2024 and by 2030, so that they need to continue to invest to drive down their energy use. That's going to be things like facades. It's going to be things like electrical system upgrades. It's gonna be the boilers and the heating and hot water system, and all the sort of technologies that all exist, but we need to accelerate their adoption and continue to move them forward. At the same time, we've passed legislation that opens up low-cost financing something, called PACE financing, to allow people to take advantage of the financing offered to make those investments. It's a complete package that really sets hard targets for greenhouse gas emissions and puts us on track to deliver on the Paris agreement.

Andrea Chalupa: Do you offer residents any sort of tool kit or any sort of guide, video series, anything, saying, "Here are the steps to make these changes in your own power." For your building where you live, for your own apartment unit. Do you have anything like that?

Daniel Zarrilli: We have a really good co-op and condo retrofit guide, and I'm happy to share that with you, and you can share it with all your listeners. But it is the sort of step by step things that you can do on your own building. And then the GreenNYC program is also then thinking about what you can do in your own unit, because if you rent an apartment unit, you obviously don't have control over the base building systems, but you can weatherize your apartment and use less energy in the winter, and you can do things like that. Lots of different tips on using less energy, and we have those resources out there for New Yorkers.

Andrea Chalupa: What if we did like, greenest building in all of New York City challenge, neighborhood by neighborhood, precinct by precinct, and made it like a big competition.

Daniel Zarrilli: We have a program called a Carbon Challenge, and some of the biggest institutions—and we just celebrated, I believe, its 10th anniversary last year—where some of the biggest institutions in the city, and universities and hospitals and some of the affordable housing buildings, have been basically making voluntary commitments and challenging themselves to meet those targets for greenhouse gas emissions. It's like, we need lots of different approaches if we're going to get there, and the voluntary approach works, and in some cases like we've done with the mandates, we've had to set the hard caps for certain buildings, and so we're going to be continuing to do that and finding lots of different tools in which we can help owners make these investments.

Andrea Chalupa: And obviously we've seen a huge shift, generational shift with Greta Thunberg coming in and giving an empowering speech to European leaders, and then you saw this wave of Green Party candidates being voted into European Parliament, and they're saying it's like the Greta Effect, that the children are saying, "Look, we don't inherit this toxic planet. Wake up everyone." Are you seeing that here in New York City, the Greta effect coming into our city?

Daniel Zarrilli: Well, I'm definitely seeing and am incredibly heartened by the youth leadership on climate all over the world, and Greta is doing amazing things. The Zero Hour

folks, the climate strikers here in the U.S. and around the world, I mean, it's also very impressive and maybe not that surprising that those who have the most to lose from all the changes that we're going to see in our climate and the crisis that we've caused are going to be the most vocal about it. Their coming of age is going to be defined by what happens in our atmosphere and what happens in our climate. So there is an intergenerational moment that's coming in our politics that I think is going to be defined by this. I'm not sure how soon that's going to come, and whether it's as quick as it just happened in Europe, or takes a little longer. I think it's coming, and I think we need to find ways to support it and make sure that we can all look ourselves in the mirror and look our kids in the mirror and say, "We've done everything we can." I think it's so important to be able to do that.

Andrea Chalupa: In terms of the monster hitting us, the monster of the climate crisis, it's going to create climate refugees. We're already seeing that in California, and obviously the train has left the station and now we're kind of bracing for impact and trying to prevent any further worsening of the crisis, but are we prepared here New York City for climate refugees? When do you see it? Well I mean, that's Hurricane Sandy, right? That displaced a lot of people, certainly. But is that part of what you and your organizations that you're linked with address, is the potential of a refugee crisis?

Daniel Zarrilli: It's clearly coming. The World Bank has estimated that something like 143 million refugees could be created by climate change in just three regions of the world by 2050. It's a staggering statistic to think about, that many people on the move. Are any of us prepared for that? I mean, we clearly saw the impacts of migrant crisis from Syria and other parts of the Middle East, and the impacts in Europe and how ill prepared we all are for those sort of impacts. This is going to dwarf that, and so better first to get at the root cause of the problem and cut our greenhouse gas emissions, and do the things we need to do to head off the most catastrophic effects. But we're going to see impacts, and so we do need to have better programs in place for dealing with migrants, and quite honestly, I don't think most folks around the globe have really wrapped their heads around that yet, but we know it's coming.

Andrea Chalupa: Oh my gosh. [laughter] Let me just brace myself for it. Okay, so obviously that's a really urgent talking point for Europeans, because the refugee crisis that they're on the front lines of today with trying to find homes and bring in all these refugees from northern Africa and the Middle East, that's obviously been a huge issue in Europe for several years now. So it's almost like, Europe, if you think this is bad now think about the climate refugees that are coming. The urgency is there. The economic impact is there. And it's sort of, there's simply no excuse anymore, even for people who are greedy and think first and foremost about their bottom line, and think first and foremost financially. It's there across the board. Every single argument's been addressed.

Daniel Zarrilli: That's right, and being rich won't help you in this in this case. So if you think that like, "Well, it's not going to impact wealthy areas," that's not true. The clear need to find intergenerational equity as we think about what we're doing to our climate is just so important, because we are leaving the next generation a mess, and we need to be doing everything we can to forestall that, to minimize it, and ultimately to find ways to reverse it.

Andrea Chalupa: There's simply nowhere to hide from this. I mean, even creating space pods to blast yourself off the planet. I mean, have you seen Astronaut Kelly? When he came back, his body was completely broken down for weeks. It's sort of like, space isn't going to save you here. It's more hostile than this planet you're abandoning. So rich

people, you're stuck with us in this world that we're all creating. So after digesting all of this, what advice do you have for someone listening who's probably like curled up in a ball and thinking, "Wow, my future. My kid's future." What advice do you have for that person? That's basically me at night in the wee hours, like this stuff keeps me up at night.

Daniel Zarrilli: The one simple word I would put at this is "vote." You know, it matters who's in office, so make sure that your elected leaders understand that this is a challenge. This is a crisis that we're facing. Act with the urgency that it demands. The science is clear. We know what the solutions look like. We need the will to bring our actions up in line with the scale that is required.

Andrea Chalupa: Great. Well, this is so wonderful. So again, give us some websites, Twitter accounts, anything. Where should people go now after listening to all this?

Daniel Zarrilli: Yeah, so check out our website: NYC.gov/OneNYC. That's all one word: O-N-E-N-Y-C. And check us out on Twitter at [@NYClimate](https://twitter.com/NYClimate).

Andrea Chalupa: Great, and if you're not in New York City resident, obviously you can talk to your own city officials, no matter how big or small they are, and say, "Hey, look at all these solutions. We can make buildings greener, and so forth."

Daniel Zarrilli: Yeah, absolutely. I think everyone everywhere can make their voice heard on this, and this is a crisis that's going to hit everywhere.

Andrea Chalupa: Thank you so much for the work you're doing. I will leave you now to continue making the world a safer place for us, and Godspeed with all of that.

Daniel Zarrilli: Wonderful. Thanks so much for having me.