

Afternoon CC from Youtube:

Dr. Emily Thompson: All right we have Brad Metz to start off our Third Annual Climate Summit.

Brad Metz: All right everybody thank you for coming and welcome to the Third Annual Climate Summit. I'm Brad Metz I teach biology and I think the reason why Dr. Thompson asked me to do this brief introduction she told me I had one minute is because this is my normal lecture time for one of my other classes bio 162. And I'm just going to let you guys know that the way things are going to work today is the Climate Summit is going to be broken up into four parts there's going to be overall introductions here at the beginning then we're going to have a talk by Bob Powell about climate summit basics and that will be followed by our keynote address by Kimberly Hill Knott and after that we're going to have student breakout rooms for further questions and discussion. And with that I think it was way less than a minute Emily but I will turn it back over to you but enjoy the rest and we'll keep this on track.

Dr. Emily Thompson: Thank you Brad. Yeah that was great timing so I welcome everyone to our Third Annual Climate Summit. We have a great show lined up for you today. Our overall theme is environmental justice and our topic of course is climate change. We are recording the session and so we want you to be aware of that. I'm not oh there's the recording line okay. We are going to ask you to stay muted unless one of the presenters asks you to unmute. If you have any questions we do have a question and answer session after the keynote speaker and our keynote speaker is Kimberly Hill Knott. You can put your questions in the chat and we will try to answer as many as we can at that time. We had slides up at the beginning and those were showing us thank yous for all the people who made this event possible and there were a lot of people. I need to give a big shout out to our Planning Committee which consisted of faculty with input from a number of students and also staff. I want to thank all our speakers our keynote speakers our special guest speakers our student speakers who are coming to us from U of M and EMU in order to bring you some terrific breakout sessions so you can learn more about sustainability climate change and environmental justice issues at those schools. We are going to be doing a little bit of timing of these events in order to keep to time and you might actually see my background change and that's okay. Those are actually timing lights and you'll see that later on. Do not be alarmed.

Okay. Our very first presentation is going to be the land acknowledgement and the land acknowledgement has been written by Dale Petty and Gabriella Gaytan- Aguirre and it's going to be read by James Hancock. James Hancock is a student in environmental sciences here at WCC and he's a member of the student club Students for Sustainability. So James Hancock next.

James Hancock: Thanks Emily. Hi everyone. So here's the land acknowledgement. It goes: As members of the Washtenaw Community College community we humbly acknowledge that our campus occupies the ancestral traditional and contemporary lands of diverse native peoples. The taking of this land was formalized by a process alien to

native cultures by the treaty of Detroit in 1807 with the Anishinaabe which include the Odawa Ojibwa Wyandot and Potawatomi native peoples. Many other native peoples lived on this land at different times including the Fox Sauk Shawnee Kickapoo Miami Muskatoon and Cherokee.

Since the origin of the college in 1965 this community has benefited from the life beauty and spirit of this land where we work and study. We recognize our responsibility to understand and care for this land and we honor with our deepest gratitude the native people who have stewarded it for generations. Acknowledgement by itself is only a small gesture but let this step be an opening to greater public consciousness of native history sovereignty and cultural rights and may this step be a step toward equitable relationships and reconciliation.

Dr. Emily Thompson: Thank you James for that beautiful reading of the land acknowledgment written for us for this special event. The land acknowledgement is acknowledging that WCC is on land that was previously and is currently considered part of indigenous land and I love the call to action there to continue stewarding the land.

Our next speaker is Dr Kim Hurns and Dr Kimberly M Hurns is the executive vice president of instruction and academic affairs at Washtenaw Community College. She has previously served as dean of business and technology's division and also was on the previous to that was on a business faculty. She has worked at the college for 19 years and as a first generation college student Dr Hurns is passionate about education and student success. Dr Kim Hurns will give a kick off address let's help me welcome Dr Kim Hurns.

Vice President Dr. Kim Hurns: Thank you thank you so much Emily. And I am just so excited to know that there are so many important things that we do normally on campus that the faculty and staff and our students find it important for us to continue. So it's awesome that we're able to have our Third Annual Climate Summit. I want to again thank all the faculty staff and especially our students who made this event you know who made this event possible. Again how proud and how awesome it is just to see how we've created such a vibrant virtual campus and to make sure that learning continues as a community at Washtenaw Community College.

I think this event is so exciting because it's such a great example of the active and engaging learning that takes place at Washtenaw Community College you know virtual experiences don't stop us that learning is still taking place and you can feel that learning when we're all together even if it's over Zoom. This year has been full of change and challenge. This climate summit brings together so much in regards to learning and the relevance of history justice and science. This climate summit is so relevant to you as learners as citizens and as future leaders. Our faculty have continued to find this work so important because we expect you as our students and our community to take leadership roles in creating a sustainable future for us all. The land acknowledgement I mentioned to Emily when she sent it over to me via email it teared me up. I thought it was such a beautiful I mean it was it was short it was to the point but it was such a beautiful acknowledgement and it really brought together the best of how important it is for us to

continue to learn and grow as individuals and as the society. It was so beautiful and important to acknowledge the truth that grounds us. It made me think a lot about history a subject that we too often know is irrelevant. But the history of this land the history of our decisions across the globe ground the work that we need to do. It really made me think more about history and science and math and sociology and psychology and art as imperatives to ground our efforts to build a more just society. So today and more than just simply wishing you an active and engaging afternoon I challenge you to take the charge that is a part of a great education one that you will be here at Washtenaw Community College and change the world and plan to put to work today and every day. During our MLK event this year I propose to our students that you are our protest. There's so much that needs to change and so much that needs to be led in this world we need more leaders to take up our global challenges like climate change this climate summit and the related activities today exist to empower your work. So have a wonderful and engaging afternoon. But remember our expectation is to follow your lead in creating a better world so thank you all for having me and I'm looking forward to the afternoon.

Dr. Emily Thompson: Thank you Kim thank you Kim Hurns so much for giving us the kickoff talk that was a wonderful expression of faith in our students and our community for being able to be agents of change in our world. Thank you.

Our next speaker is Robert Powell and Robert Powell it's my pleasure to introduce him he's my friend and fellow teacher in environmental science. Robert Powell has worked in various scientific fields since 1975. He began as a senior technician in a genetics research lab and went on to become an analytical chemist at the Oklahoma geological survey a researcher in the EPA research lab in Oklahoma and a consultant. Now Bob has consulted for among others the Little River Band of Ottawa Indians the Little Traverse Bay Bands of Ottawa Indians and he has served as an external advisor to the Los Alamos National Laboratory and as an expert witness on several court cases. In the midst of all this Governor George Nie of Oklahoma appointed him to be the mayor of a small town during an emergency he currently continues consulting while being an adjunct lecturer at both Washtenaw Community College and MIAT College of Technology please help me welcome Robert Powell.

Robert Powell: Hello everyone. I'm going to be going fairly quickly on this so I hope you'll bear with me and also bear in mind that I have not given a real presentation in over a year.

I wanted to point out a quote from Frederick Engels assuming that you all are seeing the slides who that is that is relevant to our current situation with climate change. Engels knew all the way back in 1883 that when you produced materials coming right out of the industrial revolution and so on thought there were always secondary impacts that were going to occur. And he was aware that the secondary impacts could occur to our environment. And indeed in the process of production currently in particular the production of energy using fossil fuels we are creating greenhouse gases that are contributing to global warming and climate change.

I wanted to give a very brief history because you hear a lot of people arguing that these are recent phenomena that scientists don't really understand what's going on they can't possibly be accounting for all the natural occurrences in the environment and so on to find any excuse to not pin these issues on the fossil fuel industry. But this goes way back. In fact John Tyndall an Irish physicist was given the honor of having discovered the greenhouse effect but it was not true. He did not discover the greenhouse effect and in fact he was probably aware of some work by another person a woman in fact named Eunice Foote who actually had written up a paper and delivered it to the American Association in August 23rd of 1856. She looked at what they referred to at the time as carbonic acid gas which we think of as CO₂ in closed systems and found out that light in those closed systems would heat up more with carbon dioxide present. And I wanted to use this just as an opportunity to address the equal rights amendment very briefly which has been back in the news lately and something that I worked on trying to help get past way back decades ago. Because John Tyndall as has happened throughout science for forever really more or less has taken credit for the work that a woman did carrying on with this work of Foote and Tyndall was the great scientist a physicist and chemist savant Arrhenius. Those of you who have had organic chemistry might recognize his name as part of the Arrhenius equation. His paper was the first to quantify in 1896 the contribution of CO₂ to the greenhouse effect and at that time he speculated about whether variations in the concentrations of carbon dioxide in the atmosphere might change the climate they might affect variations in the climate. And he became so concerned about this that in the early 1900s he went on a nationwide speaking tour trying to get people to pay attention to the fact that all the industry and production and creation of energy might actually eventually harm our climate. So we've gone from there up through the present time understanding and refining our understanding of why climate change is occurring.

So how is it occurring let's get into a little bit of the technical aspects of it. Hot bodies emit shorter wave radiation than cooler bodies and the sun is much hotter than the earth. The sun emits shortwave radiation we typically see it primarily in the visible and ultraviolet ranges and those ranges are absorbed by the earth and then re-emitted as long wave or infrared radiation which is heat. There's a lot more to this particular graphic that we could go into. But just bear in mind that what we're mainly seeing is the earth absorbing visible light from the sun at short for wavelength and emitting it and will as longer wavelengths as infrared radiation or heat. You're probably all familiar with from being a child with from sitting on a standing on a sidewalk barefoot and you're walking along a nice bright white sidewalk and your feet are just fine and this is because the light is reflecting the visible light that's incoming and impacting the sidewalk it's reflecting much of it right back into space without absorbing. Then you've probably had the unpleasant of experience of stepping barefoot onto an asphalt surface and asphalt is quite a bit different and your feet probably burn pretty badly because it doesn't reflect as much of the visible light coming in in fact it absorbs it and then re-radiates it as longer wavelength infrared energy or heat.

Some familiar example of the greenhouse effect that's occurring with our atmosphere is your automobile and why we don't leave our pets or children in them with the windows rolled up during warm weather. Because the sun's energy is shorter wavelength it can

pass right through the car's windshield and be absorbed by the materials inside the car. However once those materials begin to emit the longer wavelength infrared light that light can't escape the electromagnetic radiation simply can't escape as quickly through the glass. In fact it has to heat the glass before it can escape so the interior of the car heats up. And this is basically what we're having happen with the greenhouse effect here on earth. So what is this glass per se in our atmosphere it's the various greenhouse gases it's gases such as carbon dioxide and methane and nitrous oxide and hydrofluorocarbons and perfluorocarbons and sulfur hexafluoride etc etc it's basically any gas that can have its dipole moment affected by uh absorption of radiation that's beyond the scope of this talk but if anybody ever wants to talk about it we can do that.

So on earth what's happening is we have the sun emitting the shorter wave let's just stick with visible radiation it passes through the atmosphere because of its short wavelength it impacts the earth the earth absorbs it and gives it off as infrared radiation at longer wavelengths. And this tries to re-radiate the space but it is slowed down and impeded by greenhouse gases in the atmosphere and one that's not mentioned here is the most important one which is water vapor. And these greenhouse gases are absolutely critical to life on earth because if it weren't for them we would be a frozen ball of ice. But the problem comes when we have a lot of greenhouse gases that are in addition to what we consider our homeostatic concentrations of them thickening this blanket and trapping more heat on the earth.

Now is there evidence for this. Again this is a graphic that has a lot more going on in it than I can explain in this presentation but these are from the Vostok ice cores and we go back through these cores for 800,000 years analyzing the trapped gases and in the bubbles in the ice and so on. And it's pretty clear that there's a very tight correlation between temperature on this axis and carbon dioxide in the red here. so when they're increasing they're increasing together when they're decreasing they're decreasing together and let's go down here to the end of the plot and we are driving our carbon dioxide concentrations right off the chart.

So what's our current status. Well here's the famous Keeling curve for Mona Loa observatory in Hawaii. I've been tracking these numbers since the late 1950s all the way up to the present and this is the parts per million of carbon dioxide in our atmosphere. These are seasonal variations across the year in the little jagged red line on the right. I'm trying to show you what's happened just during the last few years how rapidly everything is changing in February 2019 we had about 412 parts per million of CO₂ in the atmosphere. In February of 2020 just last year we had 414. In February of our current year we had about four point 416.5 parts per million in the atmosphere. So this rate of change is continuing and we keep adding carbon dioxide to our atmosphere this chart takes a little bit more explanation. And this is showing the change in the global surface temperature and they're doing it relative to flattening the set of data from 1951 through 1980 more or less this period right through here if you can see my cursor and I assume you can. So what they're using that as the average and comparing everything else to it so that gives you a zero for the average of those years and we can see a lot of fluctuation down here below before that time period but after we start getting into more recent time

periods relative to the 1951 to 1980 data the numbers just keep going up and up and up in our temperature.

So what kind of impacts are we having. Well for example the oceans are heating up you can probably see by this graphic again set at zero with a zero and the darker reds becoming hotter the cooler temperatures being bluer that the entire ocean is heating up for except for this one little patch near Greenland and we will mention something about that later assuming that Emily doesn't shut me down.

So as the oceans are warming up they're also absorbing a lot of carbon dioxide. This is the Keeling Curve again showing that the carbon dioxide in the atmosphere this jagged green line is the partial pressure of carbon dioxide in the water in our oceans in the surface water of our oceans and it's increasing and increasing in coordination with the atmospheric concentrations due to the pressures of the atmosphere on the ocean so this is the partial pressure of CO₂ in the water and as you get CO₂ in the water the chemistry can be somewhat complicated but part of what occurs is the formation of carbonic acid and what we see here in this blue line is the increase in acidity or the reduction of pH of our oceans which is a very harmful thing it's harmful to the corals as is the temperature and it's harmful to any organisms that utilize calcium carbonate to build shells and so on because they're having to push against a concentration gradient of hydrogen ions in the oceans. What's going on with sea level rise because that's probably the thing you hear the most about. Well we have tide gauge data from hundreds of years ago because mariners have always had to keep this sort of thing. And this shows from 1900 on how the sea levels have risen. And you can see some summaries over various time periods of the rates of rising and we've gone from point six millimeters per year of ocean level increase from 1900 to 1930 all the way up to 4.4 millimeters per year in 2010 to 2015 time period. And you might think this is because of land ice melting and running into the ocean and some of it is but currently most of it is still due to the thermal expansion of the ice I'm sorry of the water as it heats.

So where's the global warming going. Most of it is going right directly into the ocean about 93.4 percent of. And as you know uh the oceans and the ocean currents are primarily responsible for our uh circulation patterns in our in our oceanic currents and in our air in our weather.

So what kind of climate change impacts can we expect. Well this sort of summarizes them heat waves water shortages droughts and fires sea level rises floods it depends on where you are. So our known climate impacts will include rising seas and increased coastal flooding longer and more damaging wildfire seasons which is already occurring more destructive hurricanes and probably more frequent hurricanes which we're also seeing more frequent and intense heat waves which are being experienced in various places around the world. Our military bases are at risk especially naval bases and coast guard stations that are basically at sea level our national landmarks are at risk we're going to have costly and growing health impacts. We're going to have this increase in extreme weather events and that will include precipitation heavier precipitation and flooding. Now unfortunately this isn't the only slide of these we move on to having destruction of our

marine ecosystem more severe droughts in some areas widespread forest death in the rocky mountains as the temperatures increase in the mountains because our surface waters will be drying up in many areas due to the droughts we will put increased pressure on our water supplies which are already being strained uh throughout the world and in our country and our the largest aquifer in the world the Oglala aquifer in the central plains is depleting much much faster due to irrigation than it is being recharged we'll have growing risk to our electricity supply due to problems with hydroelectric power and so on. Our seasons already have begun to change we're going to have ice melting such as in glacier national park while the glaciers completely disappearing all of these things could be caused disruptions to our food supplies. And one thing that's not considered very much by people in the public is that our plant and animal range shifts will be occurring and those sorts of shifts can disconnect with food for an organism you know to prey from an organism versus the predator being there at the right time.

There are positive feedback loops that can cause abrupt climate change I'm going to have to hurry on this so I'll skip a couple of the others but as reflective ice disappears due to the heat then darker ocean water absorbs more heat just like we talked about with the asphalt. Well as it absorbs more heat this causes the temperatures to rise melting more ice uncovering more ocean creating more heat and a vicious positive feedback loop uh that can rapidly get out of control with regard to climate change. The same thing can happen with melting permafrost putting methane into the atmosphere u we could have damage to the Gulf Stream breakdown that would that warms Europe currently which is at very high latitudes compared to what you're expecting. And to summarize this very quickly because I don't have time to read all this I've got seen my signal up there Emily we need to support the Green New Deal most of this is incorporated into the Green New Deal and we need to elect politicians who will support the Green New Deal this is an existential threat to human society and the people who are going to be most affected by it naturally are the poor cultural minorities and people of color and underdeveloped nations. And they'll be affected far more than it's going to harm the wealthy other types of elite such as political elites racists in power and developed nations. And that's it thank you.

Dr. Emily Thompson: Let me give a thank you to Bob Powell for giving us a great discussion of climate change and what we can do about it and the definition of environmental justice. I really appreciate it thanks so much

Robert Powell: Sorry I was a little slow.

Dr. Emily Thompson: Oh you're fine you're fine we're right on time it's perfect.

Our keynote speaker for today is Kimberly Hill Knott. Kimberly Hill Knott got her bachelor's degree from the University of Wisconsin. She got a master's degree in educational leadership from Temple University and she has received a certificate in Executive Education Leadership from the John F Kennedy School of Government at Harvard University. She was the legislative assistant to congressman John Conyers for over a decade. She's also worked as the director of policy for Detroiters Working for Environment Justice DWEJ. In 2011 Ms Knott brought people together to form the

Detroit Climate Action Collaborative or DCAC and from this the Detroit climate action plan was released in 2017. Now this is really unusual because usually a city government will write the climate action plan. In this case it was a community group that wrote the climate action plan. This requires great collaborative leadership. In 2013 Ms Knott was selected for the White House Champions of Change Award for Community Resilience Leader for her work in addressing climate change and sustainability issues in Detroit she is current president and CEO of Future Insight Consulting. She's done a lot of other very cool things that perhaps maybe you've looked her up and you can ask her about. Please help me welcome Kimberly Hill Knott.

Kimberly Hill Knott: Thank you so much. It's such an honor to speak before you today and I want to acknowledge Professor Emily Thompson for inviting me to speak today as well as Smita Malpani for just helping us pull everything together and collect all of my information.

Today I'm going to talk to you about a couple of different topics. I was actually given a list of uh different options to talk about so I've combined some of those options and I'm really going to talk to you about my journey and hopefully what I share with you today will be the fuel that you need to become the change agent that you were designed to become. So throughout your career you may have a variety of professions and that's okay. It's just important to make sure that every job and experience builds off of the other. And so as I share with you today you will see that I had a very uh or a rather colorful journey I started my career in the political arena.

I was actually an intern on Capitol Hill and worked for a member of Congress who was a Republican. He was actually the Chairman of the Education and Workforce Committee. And I was so intrigued by that experience that after graduate school at Temple University I actually decided that I wanted to pursue a career in in government in the political arena as opposed to education and so I was hired by congressman John Conyers. And congressman Conyers if you know anything about him he was a social justice warrior. He is deceased now he died probably around two years ago but here is just a little bit of his background. He introduced the bill that made Dr Martin Luther king's birthday a national holiday. He introduced driving while black and so you know we're hearing so much about racial profiling and police brutality. Well congressman John Conyers was one of the first members of Congress to tackle that issue. He also introduced a bill that many members of Congress are beginning to revisit and it was called H.R. 40 and that is the reparations bill. And so that bill was to actually study the impact that reparations excuse me the impact that slavery had on the living descendants of slavery. And so working in that office and you know being invited to meetings and needing different stakeholders nationally and globally renowned. I remember I was invited to meet Winnie Mandela the former wife of Nelson Mandela at the Charles H Wright museum of African American history. I have a picture with the mother of the Civil Rights movement Rosa Parks. And so those are just some of the a few of the people who I was able to rub shoulders with and talk to while working in this office. And so this really working in the office developed it at the time I should say I developed an appetite for justice. I worked with ex-offenders and planned a job training program with state and federal probation officers and then we had a huge job

fair at Cobo Hall which is now the TCF center where we brought together over 600 ex-offenders to help get them jobs and so those are just a few of the things that I have done or did while working in Congress.

And so I knew that my next career move had to focus on some aspect of justice so I joined the staff of Detroiters Working for Environmental Justice as the director of policy so I joined the staff in 2009 as a consultant and was eventually hired full-time as the Director of Policy and so I felt like as soon as I joined the staff I was on a plane to the United Nations Climate Conference in Copenhagen Denmark. And if you know anything about if you've been following the U N Conference of Parties they're called the COP conferences you may have noticed how important the Copenhagen conference was and that actually laid the groundwork for the Paris climate agreement. So I was there that was my first time ever going to one of these conferences and I just made up in my mind that I was not going to travel that far and not have some type of impact and so I convened a meeting with um the white house the EPA and environmental justice leaders to demand that whatever climate agreement emerged it had to be protective of low income in communities of color but prior to that meeting because we stood with Africa I had coffee with the key negotiator of African nations except South Africa which was part of G-77 plus China. And so it was just a phenomenal experience and I just I really had to pinch myself because I could not believe I was doing all of this and I had only been on staff for a few months and certainly my first time at this type of conference. But it was a wonderful conference and so after that well actually during that my time there was something called the Copenhagen Accord and this was a newspaper and it talked about all of the cities that had committed to doing something to address climate change to reduce their carbon footprint and Ann Arbor was in there and I believe Grand Rapids was in there but Detroit was not. And I could not understand why Detroit was not on the list. And I was disturbed by that so fast forward two years later I convened a group of people and talked about whether it made sense to have or develop a climate action plan. Now the reason that that discussion was so meaningful is because the city of Detroit was actually going through bankruptcy and so the last thing that was on their mind was a climate action plan. You know we were had made national news because of you know bankruptcy and they were threatening the appointment of an emergency manager which actually happened and so we decided against all odds to forge ahead and it was such a trying journey and so I'll get into that a bit more. But we launched the Detroit Climate Action Collaborative which is the collaborative that led the climate action plan in 2012 and it took us six years to launch the climate action plan and so that's typically unheard of. It does not take that much time that long but what's also unheard of is as Dr Thompson alluded to is that typically climate action plans are not developed from an environmental justice organization. So my tagline became "From the bottom up by force because Detroit matters" we did not have time to wait on the federal government to pass legislation we didn't have time to wait on state government to pass legislation we didn't have time to wait on local government to pass legislation. So we decided to be the change agents that were needed to bring this issue to the forefront in the city of Detroit. And so one of the things that we had to do is we had to build the case for why climate change was important. So I'm going to share my screen now and pull up this

Okay so I've already been introduced. I want to you know actually read this comment this quote and it's a it's a change agent quote and I love what Mother Teresa had to say about change and she said "I alone cannot change the world but I can cast a stone across the waters to create many ripples." So um you know it's interesting how change starts when you look at Dr Martin Luther King and you look at other Civil Rights leaders and other change agents oftentimes they did not work alone oftentimes it was a collaboration of people that helped to bring the vision to pass that went on to help many other people. So I like this definition of environmental justice because this is the reason that we went ahead and launched the climate action plan and why we could not wait on government to actually lead us but instead we had to lead them. And so this is this quote is by Dr Robert Bullard and many of you or some of you may have heard of him but he is very well known in the environmental justice space and is one of the he's a well-respected leader and scholar in this field. And it just simply says "environmental justice embraces the principles that all people and communities have a right to equal protection and equal enforcement of environmental laws and regulations today zip code is still the most potent predictor of an individual's health and well-being individuals who physically live on the wrong side of the tracks are subjected to elevated environmental health threats and more than their fair share of preventable diseases."

So I want to show you the face of environmental injustice. So what you'll see in the top left hand corner is someone who is part of a vulnerable population. He is an African-American older gentleman and so our research has shown that the temperatures are significantly increasing just as Professor Robert Powell talked about. It's an excellent presentation. But these issues are even more concentrated and even more dangerous in urban communities and so in addition to temperatures increasing what we're very concerned about are nighttime temperatures that are also increasing and as a result of nighttime temperatures increasing there are not as many opportunities for people to find relief. For instance most cooling centers or cooling shelters are not open during the evening. And so that is something that different researchers and municipalities are looking at to address in terms of bringing relief to the most vulnerable communities. You'll see flooding the middle picture the city of Detroit has had a major issue with flooding as many other cities and counties throughout Michigan where we had those historic rain events. So our research our climatology has also shown that not only is the rain happening more frequently but it is becoming more intense. The picture on the far right is the most polluted zip code in the entire state of Michigan and that is 48217. The two most polluted zip codes in the state of Michigan are this zip code 48217 which is in southwest Detroit and 48209 which is the Delray community which kind of abuts the River Rouge Power Plant. At the bottom right you'll see an office so in other words you know nothing is off limits with climate change all sectors are impacted and so we know that with businesses if it doesn't make money it doesn't make sense. And so it's one of the reasons why we crossed the line as an environmental justice organization to bring companies to our table. We felt that if they were part of the problem they should also be part of the solution and of course they had something to gain by being a part of our effort because they were also being adversely impacted by climate change. The young lady in the middle is something I want to talk about and this young lady has asthma. And we know that asthma is really prevalent in low-income communities. And the reason that that

is the case is because many of these communities many people within these communities are in proximity to very heavy polluting facilities. So you have the marathon oil refinery and you have several other industries in southwest Detroit. And so this young lady really represents the problem that many African-American children are having and so according to a study developed by the national NAACP and the Clean Air Task Force called Fumes Across the Fence Line it found that African-American children in southeast Michigan suffer 24 asthma attacks annually caused by oil and gas pollution in the air and they miss approximately 1700 days of school. And so you can also see the impact that that has on their education. So it's more than just them going to the hospital which creates a financial burden but it also is impacting their ability to learn. So there are many many co-benefits of addressing climate change and environmental injustice.

The last picture you will see is you know the sewage system. The reason I wanted to show that is because in the city of Detroit we have aging infrastructure as the entire country has but we have a combined sewer system. And so because our reports are showing that the rain is it's going to rain more frequently and the rain precipitation events will become more intense what happens is that because the infrastructure is old it cannot handle the volume of water that it's receiving. So all of that water is beginning to seep into the Detroit River and other waterways and contaminating the water. So backed up storage or excuse me raw sewage is being seeped into the waterways. Another issue that we have with aging infrastructure is storage backup in people's basements. And this is happening a lot in Detroit particularly on the east side of Detroit. So on the southwest Detroit you have a lot of the pollution a lot of the heat a lot of the asthma but they're also some serious issues that are going on going on on the east side of Detroit which deals with the combined sewer system and flooding.

So one of the things that we did with the climate action plan was actually formed what's called the Detroit Climate Ambassadors. And that program was so successful that we actually ended up advising other cities about how to develop a Climate Ambassador Program. And so we went and we installed rain gardens in the area of Detroit that is most prone to flooding and we built several rain gardens and partnered with the University of Michigan Dearborn campus and their students helped us with that effort. So these are just a few of the faces of environmental justice by environmental injustice. And one of the things that I would do when employed with Detroiters Working for Environmental Justice is to organize a Toxic Tour. So I called it a [Green Jobs] Toxic Tour and it just drove my colleagues crazy. They said Kimberly why would you call it a Toxic Tour why would you call it a [Green Jobs] Toxic Tour. And the reason I wanted to do that is because I wanted to show the face of the pollution excuse me the face of pollution to key decision makers. So I would plan these events for business leaders and government officials so every time they would make a law that would adversely impact these communities I wanted them to see the faces of those who were being impacted. And so we would have people who would talk about how they were experiencing kidney failure and cancer. And at one time there was a study that was done in southwest Detroit where they said if you know of someone who has died because of exposure to pollution please put a cross in the yard and all you saw were a sea of crosses because of all the families that had been adversely impacted by exposure to pollution. So we'll come back to that.

Research research research was the key for our climate action plan. Because this had never been done before we had to build the case we had to show the city we had to show funders we had to show everyone why it was important for our effort to be supported. So we developed several reports and I'll just say that you know the academic community is so important in helping cities um engage in this type of work. And so you know there are many many opportunities in fact I have a speaking engagement next week where I'll be speaking before municipal leaders about how to engage in the climate planning process. But what we did is the reports that we developed was the Detroit Greenhouse Gas Inventory. So we conducted the city of Detroit's first greenhouse gas inventory and that was really really cool. We partnered with the University of Michigan. And so we knew that we wanted to not only focus on municipal operations but also city-wide operations. So we actually did an inventory that included both of those sectors and it was very comprehensive. And then what we did is we convened all of the city of department most of the city of department leaders and presented the results to them and they were shocked because they had never seen that information before. What we also did is we did the Detroit Climatology Study which showed uh the um the impact of climate change and really focused on precipitation or extreme precipitation and extreme heat.

Lastly we did a Detroit Economic Analysis a Small Business Sustainability Toolkit and a Vulnerability Report. And then we wrote the report. And it was absolutely phenomenal. We um there was a lot of back and forth of course but it was fun to engage all of the different sectors. So we had business leaders their reports had to be vetted by public health experts. And then public health experts their report had to be vetted by business leaders and you know parks and public space folks. And so they all vetted each other's reports. And then we took it to the community. And we had the community that it and the funniest thing was so DTE energy said well we want to be a part of this. And so they would go they went to the community meetings. And they said okay Kim we'll take the notes in this particular meeting. And so they actually had to write down close down all the powerful the power plants in the state of Michigan. And we saw DTE energy writing closed down all of you know they could one hour. And so it was it was so funny to see that I just I had a lot of fun at those community meetings. And so anyway so after that we wrote the report we vetted it um you know hired the editor and went back and forth in terms of language.

And then we had a green carpet event and the green carpet event was where we actually launched the film. We did a documentary. So I co-produced a film on climate change and its impact on urban communities. And so it wasn't a red carpet but it was a green carpet. So we had the green carpet spread out and we had a lot of people there. And I remember a representative from the Detroit Regional Chamber. I think he was shocked to see how many people were there and all the business leaders who were there. And then we had a panel discussion with General Motors and other business leaders and community leaders to talk about why addressing climate change was so important.

So last but not least one of the things that we did is I left a policy committee and we developed policy because we knew we had needed policy to support the climate action

plan. And so that was a lengthy process. We worked with city council got a sponsor I worked with the office of sustainability and I am so happy to say that we passed the city of Detroit's first Greenhouse Gas Ordinance without any opposition. That's a miracle. And so as a result of that the city of Detroit is now conducting its first greenhouse gas inventory and so we're so excited and they're following the footsteps that we have that we've developed in the path that we've laid there. We're also doing the Vulnerability Report just as we did and so it's really a cool time.

So moving on into my entrepreneurship career. I what I did is I rebranded the company and took my experience from working in Congress and leading the development of the climate action plan and working in the environmental justice arena to now being an entrepreneur focusing on corporate sustainability. So remember when I told you I crossed that fine line. Well what I'm doing now is working with corporations to talk about JEDI which is justice equity inclusion and excuse me diversity and inclusion. So taking that back to them and encouraging them to get actively involved and invest in the communities in which they're located in. And it's been a wonderful experience. I'm now doing public speaking and look forward to really advancing this work and my closing statement is that through every trial disappointment in victory I've had to rely on my faith as a Christian and I'm reminded of a scripture that says "Do not despise the days of small beginnings" which is Zechariah 4 and 10 and because it was the small beginnings that prepared me for the larger ocean of opportunities a larger platform. And so I've been invited to speak all over the country including the World Bank and the White House as well as several community meetings. And I just want to encourage you to dare to be different and dare to make a difference. Often times inventors geniuses and ordinary people often take the road less traveled. Thank you

Dr. Emily Thompson: Wow Kimberly thank you so much for the illuminating speech and I know I have a lot of questions but we want our students and our attendees to ask the questions. If you would please type your questions into the chat and we can have either Kimberly Hill Knott or Bob Powell answer the questions.

Kimberly Hill Knott: I'm also just going to share this really quickly the ending quote from Bill Clinton as people are typing their questions. "Profound and powerful forces are shaking and remaking our world and the urgent question of our time is whether we can make change our friend and not our enemy."

Dr. Emily Thompson: Okay thanks again. Our first question that I saw in the chat oops is from Hegedus. Hegedus do you want to unmute and ask your question please. I'm looking for the person .. they might have gotten bumped out.. go ahead.

Diana: my name is Diana and I was just wondering in the first presentation that was being shown in some of those charts it's very clear that there's been a drastic change over the last 40 years or so in those slides. Obviously as the world progresses and society progresses there's more you know vehicles moving on the streets and you know there's more of all of these things that are very obvious. What do you think is the major reason that those changes are occurring so quickly.

Robert Powell: Okay the question was posed to me I believe. And I guess the major reason is we've had large increases in population. We've had a lot of countries that were basically rural and agrarian becoming increasingly developed and burning a lot of fossil fuels on their own and it tends to catch up to the United States. And frankly in the developed nations we've vastly increased the demand for electricity and so much of our electricity has been based on fossil fuels even though we've known for 100 years that that could be a problem and for at least the last 50 years or so that we needed to be switching to more renewable power sources. So it's any number of things but in the massive increases in population I think the population has doubled since I was young and increases in development and increases in demand in western countries for electricity. Did that help.

Dr. Emily Thompson: Thank you Bob. Our next question is from Maddie Brown. Maddie Brown would you like to unmute and ask your question of Kimberly Hill Knott please.

Maddie: Yes .Yeah at the end of your presentation I was really encouraged by just your faith. I was wondering if you were ever like discouraged like faith-wise working in the environmental field. I feel like I never see like Christian environmentalists so it's just kind of interesting hearing from somebody who yeah is and yeah I think that's awesome. I'd love to hear like your point of view on that.

Kimberly Hill Knott: Yes there were many times when I was actually discouraged and I remember there's a song by Dorinda Clark Cole so you know Detroit is known for its singers you know Motown but also its gospel singers and the Clark sisters are very famous family. Anyway she has a song that's called "There's a story behind my glory" and so you know when you look at you know me being invited to speak in the White House award you know you don't see the other side so the other side is the times when you know the foundations would not support our work where we could not get the grants to continue our work. But we kept working we never gave up because we were not we were more focused on the mission than we were on the money. And so obviously it takes money to effectively implement I just believe that if your heart is in it you will continue to fight until you get the victory that you need to see. And that is where my faith came in. "The race is not given to the swift nor to the strong but those who can endure until the end," and it was a race of endurance and it always is for environmental justice organizations and those organizations that are working with low income in communities of color oftentimes they are not funded the way that mainstream environmental organizations are funded. And that's been a huge problem for many many years.

Dr. Emily Thompson: Thank you Kimberly. We have time for one last question it looks like a quick question and this is from Siri Ibarguen. Sorry I know Siri I know you how to say your name. Would you ask your question of Kimberly please.

Siri: Hi Kimberly I was just wondering and I apologize if I just missed what you said with the flooding you were saying that does it tend to be that poor neighborhoods are put into flood zones or is there any kind of information about that.

Kimberly Hill Knott: well yeah the community that I spoke about you know their issue is exhaustive or exacerbated because of the more intense precipitation but that is a flood plain. And so yes that is that has been a typical in urban communities and it certainly is in the city of Detroit. And so urban planning has everything to do with how these communities are designed. It's amazing how these facilities and the floodplains are just in such proximity close proximity to residential communities. And it's like what on earth were the urban planners thinking about when they designed these communities it's absolutely horrible. And so my hope is that all urban planners all urban planning programs have a class in environmental justice and they understand the importance of land use decisions. And of course it has to go beyond the classroom it also leads to this discussion has to take place at the state level that grants the permits for these agents these companies or industries as well as the local level that allows the expansion.

Dr. Emily Thompson: let's give one round of applause to Kimberly Hill Knott Bob Powell and all our speakers for today. As a challenge to all of you participants won't you please put one word in the chat that best describes environmental justice to you.