SPECIAL PRESENTATION

"SECURING MICHIGAN'S CLEAN ENERGY FUTURE"

INTRODUCTION BY:

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FEATURED SPEAKER:

GOVERNOR JENNIFER GRANHOLM (D-MI)

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MS. SARAH ROSEN WARTELL: Good morning everyone and welcome. I'm Sarah Rosen Wartell and I'm the executive vice president here at the Center for American Progress. I thank all of you here in the room and on the web audience for joining us, and on behalf of John Podesta and all of us at the CAP team, very special thanks to Governor Jennifer Granholm for coming to CAP today on the one year anniversary of a dramatic Recovery Act investment in Michigan's clean energy sector.

On this occasion, the governor will offer her report on Michigan's progress in creating jobs, attracting significant investment, and building new engines of long term growth and opportunity for the state's residents.

The governor has done a remarkable job amid acutely difficult circumstances. Like other industrial states, Michigan has struggled with high unemployment and a shrinking state budget for years. With the worst economic recession since the Great Depression, these problems were compounded by accelerating layoffs and assembly lines shutdowns. In the face of so many setbacks and short-term crises, it's hard to focus on making the big strategic changes to address deeper structural challenges. When your citizens see falling standards of living and growing inequality, it's hard to design and implement a hopeful strategy for recreating growth whose benefits are widely shared. And in Michigan the challenges of economic transition are especially daunting.

Michigan has born the brunt of America's manufacturing losses. Today, manufacturing employment in Michigan hovers around 46 – I'm sorry – 460,000 jobs compared to roughly 900,000 in the late 1990s. Employment is shrunk for 10 consecutive years and personal income even fell last year for the first time in three decades. But from great challenges come great opportunities. Despite the many obstacles, the governor believes that Michigan's best path forward is to embrace the inevitable transition to a low carbon global economy and sees the chance to get ahead of this fundamental economic change. By 2020, clean energy will be one of the world's great biggest industries, totaling as much as $2.3 trillion. Countries like Germany and China are taking aggressive steps to support clean energy business, hoping to lead the world in manufacturing and infrastructure development.

I recently returned from China and frankly what I saw made me deeply concerned that they and others are beating us in the clean energy race. But under Governor Granholm's leadership Michigan is beginning to see its opportunity to transform their vulnerable economy. Recovering investments in the state are already attracting billions of dollars in private capital to create thousands of jobs and provide a strong foundation for future progress. By pairing these funds with smart public policies, Michigan has started to diversify its economy and become a more stable and competitive place for the 21st century world.

A year ago today, Vice President Biden traveled to Detroit to announce a massive investment of stimulus funds into Michigan's advanced battery industry. Of the $2.4

billion in advanced battery funds announced, over half went to Michigan. The state is now home to 16 battery companies representing nearly $6 billion in public and private investment, creating almost 62,000 new jobs.

In large part, due to Michigan's efforts, the United States as a whole is slated to go from producing 2 percent of advanced automotive batteries to 40 percent in just five years. Michigan's success in attracting both public and private investment is a testament, not only to the state's base in manufacturing, but to the governor's dedication to building a clean energy future.

Since taking office eight years ago, the governor has made clean energy a driving force of administration and her work goes far beyond batteries. She secured state wind and solar tax credits, helped to bring together a Midwesterner court on greenhouse gas pollution, and adopted new rules to protect health from the certain smog pollution of coal fired plants.

Today, utilities companies in your state are investing in clean wind and solar projects instead of coal. Six major solar companies have announced investments in Michigan alone, which bring $2 billion in investments and create another 12,500 jobs. And clean energy projects funded through the Recovery Act have already created and saved more than 54,000 Michigan jobs are slated to create more. But the clean – sorry, excuse me – the thousands of Michigan workers and their families, for those families, the immediate benefits of Recovery Act jobs cannot be underestimated. But the clean energy jobs created in Michigan represent more than a short term boost to the state's economy. What these jobs represent and what Governor Granholm is here to talk about is the first step in a major retooling of the state's economy for the global future, by investing in emerging agents of growth.

There are transformative moments in time, often only recognized for their import from a future vantage point. I like to believe that Michigan could be at a similar pivot point and we will look back and see not simply a recovery from a cyclical downturn, be it severe, but the beginning of a new trajectory, and if so, it could be a lesson for other states and regions that clean energy is not just an environmental imperative, but also a key strategy around which a new globally competitive U.S. innovation economy can be built.

I'm excited to hear the governor's report on how her plan is working. So with no further ado, let me introduce her. She is a public servant who's dedicated her career to the State of Michigan. The governor started out as a clerk for Michigan Sixth Circuit Court and then became a federal prosecutor in Detroit. She was appointed Wayne County Corporation Counsel in 1994 and elected Michigan's first female attorney general in 1998. Since she was elected governor, she's been a tireless advocate for both the people of Michigan and for clean energy and its job creation potential.

Governor Granholm, we thank you for joining us today and for your hard work for the people of Michigan.

After the governor makes her remarks, I'll return to the stage and we'll take some questions, first from the press, and then from the rest of the audience. So with that, Governor, the podium is yours.

GOVERNOR JENNIFER GRANHOLM (D-MI): Thank you.

MS. WARTELL: Thank you. (Applause.)

GOV. GRANHOLM: Thank you very much. Well – so can you hear me and can you see the screen? Yes, yes? You in the back? Yes? Nodding heads. Good. Okay, first of all, that was a great introduction. I really appreciate the setup because what you started to talk about is how can a state essentially in the middle of this free fall, which is what Michigan has been in the middle of, play both offense and defense at the same time. And so clean energy is our offensive play, one of our offensive plays, and that's what I'm going to focus on.

Now, I'm going to talk about the battery stuff and a little solar and wind. I'm not going to talk right now because I don't have a whole lot of time on the energy efficiency stuff. And I'm a big believer in the first fuel energy efficiency. So just because I don't talk about it doesn't mean that we're not doing that and I don't see that it's a big opportunity, too.

So I titled this "A Story from the Michigan Laboratory" because of course the states are the laboratories of democracy, right, and this particular laboratory that I am the governor of has been the toughest state economy in the nation and has been extremely painful to live and be working in factories or not working in factories in Michigan for, frankly, this whole decade. As you said, we have lost jobs in Michigan every single year of this first decade of the 21st century. In fact, since 2000, we have lost in Michigan, a state of 10 million people, over 800, 000 jobs.

Now, I don't know if I can put that into context for you, but that is enormous in our state obviously. And it's because for 100 years Michigan has proudly been the automotive capital of the world and we have had seven times more automotive and manufacturing employment than other states. So we have been affected seven times more than other states. We are the poster child for this global shift in manufacturing jobs – Michigan is. So I'm obsessed about creating jobs for everyday citizens in America. And that's why this clean energy opportunity is so huge.

So let me just – let me start, if I could, just very quickly, by taking you back to 2003, when I was first elected as governor – I was elected in 2002, took office in 2003. And at that time, we were just coming out of a national recession. If you remember, if any of you were around then – a lot of you look young, maybe your not, but anyway, 2003 – this is what the –Comerica economists were saying – Comerica was Michigan's biggest bank. And he was saying, "economic fundamentals look great. The auto industry is going to come roaring back. People are going to buy all these SUVs et cetera." The

Hummer was really big at the time, lots of optimism. Now, in the first half of 2003, when I came in with this, I was thinking, "all right, we're at the end of the recession. We're going to be creating jobs. It's going to be great." And so I was hit with all of these immediate crises. Our biggest health care system almost went bankrupt, had to bail them out. The second crisis was we had riots in – race riots in a town in west Michigan. It was broadcast nationally. The third major crisis was in August. Actually – and I don't know if any of you remember this – but remember the big blackout in August? Now, this is the kind of crisis I like. (Laughter.) I go into the emergency operation center. My whole cabinet is there. I'm ordering people around. They're doing what I want them to do. It's all good. It's over in two days. You can go home and take a nap. That's the kind of crisis I like. (Laughter.)

Unfortunately, that's not the kind of crisis that we've been dealing with. We've been dealing with a long term structural problem. So in December of 2003, I got a phone call from the guy who was the head of keeping jobs in Michigan, especially manufacturing jobs, from our Michigan Economic Development Corporation or Economic Development – he calls me and he says – his name is Jim Donaldson – he calls and he says, "Governor, we've got another crisis." I said, "what?" He said, "this one is going to be tough." He said, "there's a little community in Greenville – in Michigan called Greenville, little tiny town, 8,000 people." He said, "they're about to lose their biggest employer." I said, "well, how many jobs?" He said, "2,700 jobs" in this town of 8,000. That includes grandparents, kids et cetera. This whole town had grown up around this refrigerator factory. It was now owned by Electrolux. And what he said was that they were threatening to go to Mexico.

This was a different kind of crisis. So I got my cabinet together. I do what I like to do. Get the SWAT team. We went to Greenville. We said, "we are going to fix this. We're going to make them an offer they can't refuse." So we went into this room. I remember it so clearly. We had the mayor there, the city manager there. We had the head of the community college, the head of the Chamber of Commerce, the head of the UAW, who represented the workers in the factory. We had everybody there. It was like 20 people around. And we basically – if I had pockets – we basically shook out our pockets and put all of our chips on the table and push them across to the management of Electrolux. We gave them 20 years of zero taxes. We offered to build them a new factory. This was a profitable factory, by the way. We offered to build them a whole new factory. The UAW put at that time unprecedented concessions on the table. And when the management of Electrolux looked at our pile, they said, "you're so generous. That is more than we would even have expected. But you know what? We can pay a buck 57 an hour in Juarez, Mexico. So there is nothing you can do to overcome that. There's nothing you can do to overcome the fact that we can pay a buck 57 an hour."

We are in crisis in 2003-2004. The month that the last refrigerator came off the assembly line in Greenville, Michigan, I was invited to go to – by the employees – to go to something they called "the last supper." I went to it. It was at a place called Klackle Orchard Pavilion. And I went in. They had a band playing. Hundreds and hundreds of people, families, sitting around these tabletops, checkered tabletops, eating out of box lunches, sort of nudging each other going "what are you going to do next? What are you

going to do next?" So I go in and the first guy who comes up to me in this last supper, he brings his two kids next to him, his two daughters. And one's like a teenager. One's maybe like eight years old. And he says, "Governor, I want to introduce you to my two kids. I want you to know that I'm 48 years old. I've worked in this factory for 30 years. I am too young to retire." He said, "my father worked there. My grandfather worked there. I went from high school to factory. And this is all I know." And then he said, "who is going to hire me? Who is going to hire me?" That question has been asked in communities all across the industrial Midwest, as we have seen this manufacturing base hollowed out in America.

We don't make things in the United States. We are a weak nation. And that's why this energy bill gives us such an opportunity.

So let me just talk for a moment about what we all have to do. As I say, it's structural change. The world has changed and we must change, too. I say that to Michigan citizens all the time. We've got to change. You can't expect that you can go from high school to factory anymore. We've got to double the number of college graduates. We have to change. But we can't expect – we know in a global economy that the labor intensive jobs are going to all stay, but the skill intensive, you better believe that those are an opportunity for us, right? That's the distinction that Paul Krugman makes.

So we said we've got to diversify since we were so concentrated. And so we identified six sectors that were natural to us in Michigan, the first being clean energy. And of course, that's what I want to focus on. We also talked about – we have been adding life sciences, defense, advanced manufacturing, film, tourism. Our economic development agencies have brought in over 900 businesses in those sectors. But on clean energy, this is where I think the prime opportunity is for the worker who says, "who is going to hire me."

So we got the legislature after much wrangling because I have a Republican Senate and a Democratic House, took a lot of effort to get a state energy bill passed. It wasn't as robust as I would have liked, the 10 percent RPS by 2015, but nonetheless, we sent the market signal that we were serious about this. And since we've had the passage of our state energy law, we've had a bunch – we've seven companies – actually that's really six companies because there's one I'm going to talk about in a second – six companies, three billion dollars invested, 20,000 projected to be created just since that was passed. And that was passed in October of 2008. Since than this – this happened.

So I'm just saying that if you get the right policy in place, you send the right market signals, you will create jobs. And for us – this is a little company, this solar panel company that is demonstrating this. They used to be – they used to just do regular shingles. And now they have diversified and are doing solar shingles, not quite at the price of the regular shingles, and that's why we have to have incentives to ensure that this breakthrough technology, the initial users are not having to pay too much so that it's a disincentive. But the bottom line is this is creating jobs because people are going to make this stuff. And we've got a lot of companies in Michigan that have that make glass

for the auto industry that could clearly diversify into solar panels. A lot of states have that as well.

Since the passage of our state energy law in 2008, we've had 10 wind companies – again, October, 2008, 10 wind companies, $173 million invested, almost 5,000 jobs. Now, this one – this is the capital. You recognize this? (Laughter.) You recognize this? You guys ever seen this? This is right in front of the botanical gardens, right? Made in Michigan. This is a small wind turbine, goes like this, rather than the ones that go like this. It's made from a company called Mariah Power. In Michigan, we carry a map of the state with us on our hand. And so this is the lower peninsula of Michigan. And Mariah Power – obviously I'm going the wrong way, aren't I? Where – there – there we go. Mariah – (laughter) – I always look at my map. But anyway, Mariah Power – (inaudible) –. And this is made by former auto suppliers, took an old auto supply company, convert it making wind turbines, people employed, good news, right? That is excellent.

Now, the Recovery Act comes into being. Layered on top of our state policies, we now have this big boost from the Department of Energy. So one year ago today, as you were saying, we had Joe Biden come into town and say that Michigan got 12 battery grants. Since then, we've had 16 companies, $1.3 billion worth of, again, public money invested, 62,000 jobs projected to be created over this next decade.

Now, this Recovery Act and all of this activity on batteries – and I'll talk about the batteries in a second – this is new for us in Michigan. We're big internal combustion engine people. And there was a lot of skepticism about batteries and a lot of skepticism certainly about the electrification of the drive train, of the vehicle. In fact, this cartoon – I don't know if you can see – you can't see it. I can tell. It's a great *New Yorker* cartoon. You can see it's from actually 1999. I have to come back to see if you can read it. Can you read it? You can't read it. It's a piece of toast popping out of the top of a car – oh, you can see it over there – and of course it says, "and they say electric cars aren't practical." (Laughter.) But that's sort of how many people in Michigan viewed the electric car. In fact, this battle has been a long time and coming.

Here're some headlines from our major Detroit papers: Kerry – when he was proposing this – Should Drop the Job Killing Fuel Economy Proposal, CAFE Standards Corporate Average, Fuel Economy Standards, the Big Three domestic automakers always resisting increasing because they say that we can't be competitive. The CAFE Proposal Draws Opposition. Granholm Urged to Help Fight the Fuel Plan. CAFE Mandates of Above 40 Miles per Gallon Would Devastate the Big Three.

So – and in fact just a quick story – you remember when the CEOs of the Big Three came and testified here? Remember that, right? The first time they came and testified, they flew, remember? And then they were sent back and told they had to revise their plans. And then they came back – this is now in December of 2008, just after the president's been elected. They're begging for a bailout because we're in the middle of this recession, right? And so they came back, but they drove back. Do you remember

this? And they drove in their favorite vehicle. And Rick Wagoner, who was then the CEO of General Motors, he was driving in his Chevy Malibu.

Now, I am all about using the industry to lead the nation to energy independence. And we've just passed our energy bill and I was all excited about it. So I call Rick while he's on the road in his Chevy Malibu. And he's on cell phone. I wonder if he was driving. Probably he's committing some crime in some state as he travels. Anyway, so I get so presumptuous. I can't believe I did this. Anyway, I said, "Rick, this is Jennifer Granholm. Hope you don't mind, but I have some advice for you when you testify," because it was killing me. He said, "sure." He's a great guy. He really is a sweetheart of a person. And he said, "sure, I'm happy to take whatever advice." I said, "okay, first of all, when you testify in front of Congress, don't read. Look them in the eye. Be strong. Be proud of this vehicle. And tell them that the American auto industry, we are not going to be luddites. We are going to lead the nation to energy independence. Tell them that you are proud of being able to move in a whole new direction. That that was the old auto industry. This is the new auto industry. Rick, you've got to do this." And crickets – the poor guy, he was very nice about it, but you remember what happened after that second testimony. The Congress denied the bailout.

It was only President Bush, who came in at the very end of December and said, "we'll give you a lifeline until the Obama administration comes in."

So these CAFE mandates of above 40 miles per gallon would devastate the Big Three kind of headline, here we are Chevy Volt to get 230 miles per gallon. Of course, I use the Chevy Volt because that's our prime, but you know that this is electric vehicle and its progeny is going to blow CAFE out of the water. It's just going to be almost irrelevant at some point in the near future.

So clearly, August 5th, 2009, Vice President Biden comes. He announces these battery projects. And for those of you who are not battery people – and why would you be – (laughter) – so here's my cell phone. Here's my lithium ion battery. This lithium ion battery is what is going to be in your vehicle, a little bit bigger. In fact, this is a picture of what the lithium ion battery looks like in the vehicle. And that goes like between your seats, right? So it's huge. A lot of the lithium – a lot of them packed together. So why is this going to create so many jobs? Because inside of this there are battery cells and the cells are put into the battery packs. And the battery packs are assembled and integrated into the vehicle.

What's in a battery cell? Well, as you're saying, 2 percent of the batteries were built in Asia before and now 40 percent, what's the big deal? In a battery cell, they have – just to take you back to your chemistry days – an anode, a cathode, a separator, electrolytes, the material that moves ions between one side and the other. All of that stuff has to be made by somebody. So in Michigan, even though we got 12 of these grants, we now have 16 companies in one year because that whole supply chain to the battery industry has also taken route in Michigan. And that means that people have got to put the anode, the cathode, the separator material together. They've got to put it all into a pack

and they've got to attach the pack with all of this electrical stuff on it – it's very magical – to the vehicle.

I don't know how it works, but they need really smart people to get it done. so for us that funny looking thing is going to mean 62,000 jobs for Michigan in the next decade, really good news.

Now, President Obama, today actually, is in Illinois, visiting a Ford factory. And he was last week in Michigan. He actually drove the Chevy Volt. You could see him getting in. The Secret Service guy let him go about 10 feet or something like that – (laughter) – before they made him get out. But I've driven it. Have you guys driven an electric vehicle? Has anybody here driven an electric vehicle? You have? Are they not cool? You know why? You get in them. It's totally quiet. You feel like you're in this luxury thing. You're like where is the roar? So some of the electric car companies, for those who like a little bit of torque, they're adding noise. (Laughter.) They are. You've got like companies now that are all about the noise that they're adding to the cars, so that you can have – do you want to have a NASCAR noise? Do you want to have a subtler noise? Bottom line is it's jobs, you know? It's all good from my perspective.

This picture on your left is the president, when he came to Holland, Michigan, and that is a picture of him at a groundbreaking for one of the battery companies, LG Chem Compact Power that is going to hire hundreds of people in Michigan doing this very thing. And that's the battery that's going to go into the Volt, so they're connecting the two of them. So it's really way cool.

So I just have a few thoughts about what we need to do in the United States to foster the growth, not just of battery, but of clean energy technology.

Obviously, we need an energy bill. And this – I want to say – underline – I probably should have put this in really, really bold. U.S. government must play a role. So for all of you free marketers, your not going to like this, but every other country is doing this. They are eating us for lunch. And if we don't put our finger on the scale for our own people and our own manufacturers, shame on us. We will lose this opportunity. And do we really want to lose the manufacturing backbone of the United States and the jobs that go with it? We've got to be making jobs in this country and that means we need a federal government that's engaged and that is helping to create an energy bill that creates jobs in this country. So the energy bill, of course, has to send the right market signals to people to invest in this country. Whether it's cap and trade, whether it's a carbon tax, whether it's an RES, the bottom line is we have to send a message to employers across the world that we're serious in America.

We also need federal incentives, and this could be part of the bill or could be separate, but we have to create demand for early expensive technology. And that's what the battery tax credits, $7,500 tax credit for battery purchasers of electric vehicles to bring down that cost of batteries. So if you look at this battery right here, your vehicle battery is never going to be this small. But you know Moore's Law, which says you can

double the number of conductors on a chip, right, over every two years, that's going to happen with batteries. The battery that I showed you used to be this massive ridiculously size thing. And that one's still really big. It's going to get smaller. It's going to get more like wait; we have to invest in the technology to make this happen. But we've – but in order for it to get out of the door, we have got to get incentives in the game for those early adopters. And that's true with batteries. It's also true with solar and wind because we know that wind is going to be very inexpensive once it's installed, but the installation is a challenge.

So bottom line we needed the feed in tariffs on the solar wind side, battery credits on the battery side. All these other countries are doing this. Ontario has now this feed in tariff and we've been trying to lure a number of solar companies to Michigan because we have these solar tax credits, but they're all saying, "oh, my gosh, are you kidding? I can go across to Ontario and have the feed in tariff, like they have in Germany." In Ontario, there's so much demand now for companies, solar companies to go there because of the feed in tariffs. We are missing out if we lose this opportunity to adopt smart policy that we've seen in other places that has worked.

We need direct federal investment in energy research and development and in infrastructure clearly. And when I say research and development, precompetitive research and development even, the bottom line is we need to have a commitment to energy research and development in order to get the battery sized down, in order to lessen the costs, materials, carbon fiber materials, light weight et cetera, really critical, infrastructure – obviously, that's the grid and other infrastructure. Access to capital for retooling plants – there are so many midsize suppliers to the auto industry, in particular, but clearly to manufacturers overall, who cannot have access to credit and have been so frustrated by the fact that all these banks got a bailout and there were no mandates to lend to people. So they hung out to the money. What good was that if you need it to get out the door and then they made the requirements so tight that anybody was deemed the risk if any of their collateral had depreciated? And of course, manufacturing firms, their collateral was depreciating because of what was going on in the economy and they couldn't get along. So these are people who had a whole payroll and had always made their loans and had always been a good bet for the banks and all of a sudden, the spigot was turned off there. The banks got bailed out and none of that money flew.

So there needs to be access to capital for retooling plants. It could be through the banks or directly from the federal government – loans, grants. We've seen in Michigan that when there is access to capital, people will put it to work in hiring. And by the way, the first comers to investing in a state or a country – for example in Michigan, this is why we were really aggressive with our battery incentives pancaked under the federal ones – we knew that the first place that they, where they invest a lot of money, that's where they're going to stay because it's much more expansive then to move it, right? So we need in America to get this in the ground now because we don't want to be buying all this imported stuff. Let's get it done now. But we need a federal energy bill to do it. And that's why the access to capital for investment purposes is so important.

And then content requirements – now, this is controversial to some, but if we're going to be giving out loans or grants, you better believe we want those jobs to be created in the United States. Why would we be subsidizing jobs to be created somewhere else? So if we're going to do this as a nation, let us look out for our own and make sure that if a tax payer is going to be paying for loans or grants or subsidizing any of this, we ought to be creating jobs in this country. And so that's why I think content requirements mandates to lend in the United States are critical for whatever that's going to be.

Long term – of course you all know this – that we've got to continue to focus on skill levels for the future workforce. If we're doing any long term planning, you have to have – stem education, science, and technology – science, technology, engineering, and math.

This is just one last story I'm going to leave you with because it's an illustration of how it works when the government is involved and when you have partnerships. And again, when I say the government is involved, I don't want people here to stand on hand, I mean that in partnership. That means that the private sector calls the shots in terms of where they're going to be investing et cetera, but – in the United States or in Michigan, but – and they get to decide how that money's spent, but if you don't have a partnership or some leverage of public dollars or private dollars, your not going to get the investment or the jobs.

This is a slide that is from Roseville, Michigan. It's a Ford plant. And they actually brought back work from Mexico to be able to integrate the batteries that they brought back from Asia into the vehicle, so jobs coming back in because of the investments that were made – Ypsilanti Township, where they're located, helped. Our state incentives helped. The federal government gave Ford the battery dollars and of course they want to make them in the United States.

And UAW was a great partner – just as a quick aside on that – a lot of people have said that the unions have been part of the problem for the loss of jobs in America and all of that. I'm just telling you. The new head of the UAW is a guy named Bob King. He spoke to the Center for Automotive Research in Michigan two days ago and said the 20th century UAW was all about job security and was all about an adversarial relationship between labor and management. The 21st century UAW has to be about partnerships and making jobs in this country, stay in this country, so that means that they have to be obsessed with quality and obsessed with making sure that the company is profitable globally. So that is a whole new day. And that's very encouraging. They've got to be a part of the solution as well.

So just a quick map of what we have seen since our state energy law was passed. We've got all of these investments both in – and I didn't even talk about bio energy, wind, solar, and advanced battery, that's 89,000 jobs, 47 companies, $9 billion of investment in this sector. Yes, we still have – actually we're number two in the country now in terms of unemployment rate – Michigan is – behind Nevada, but nonetheless obviously we've had a really tough go. And I am not suggesting in the least that this is

the only solution, but I'm just saying that if we do the right policy, both state and federal level, that we can and will create jobs.

And so the last thing I want to leave you with, before we take questions, is to finish out the Greenville story. I said I had one solar plant that happened before the passage of our state energy bill. And it was in Greenville.

We went to a company called United Solar Ovonic, and we said, "please, you have got to replace some of these lost manufacturing jobs in this town of Greenville." And so United Solar Ovonic agreed to open up two factories in Greenville. Now, they aren't employing as many people as the factory did that was there. They have 800 people that are working in Greenville now at these two factories. And Greenville has decided that it's going to live up to its name. And so what it has said is that it wants to go completely off the greed. And they are installing the solar panels that are manufactured in Greenville on all of the municipal and school building. So we've almost come full circle in Greenville. We still have work to do. The community college is retraining the workers from Electrolux to work in the solar plants. That's great news. They still have work to do, but the bottom line is for us as a state to be an example for the rest of the nation, not just of the bad news, but of possible solutions for job creation and manufacturing in this country.

I'm very proud to be able to be here today on the one year anniversary to bring a message of hope. And that's why I tell you, as – what's his name – used to say, "the rest of the story." Right? Right. So I'm happy to answer any questions. (Applause.)

MS. WARTELL: I think I heard something about Oprah planning to step down from her show, so I think she's got competition. She sees you coming. (Laughter.)

GOV. GRANHOLM: Oh, please.

MS. WARTELL: I actually wanted to ask you one question before we go to the audience about the fourth bullet on your story there, about access to capital.

GOV. GRANHOLM: Yes.

MS. WARTELL: Because I think that's a really missed point. I mentioned before that I was in China and I visited wind turbine, solar, and battery factories. And what – the overwriting story that I got was it wasn't $1.72 an hour in labor cost.

GOV. GRANHOLM: Absolutely.

MS. WARTELL: It was the cost of capital that there were turnkey factories being handed over to manufacturers who were coming that they were able to borrow at rates, and they also had, as you mentioned, guaranteed demand because public policy was creating a we're going to buy so much in renewable product. How does the United States

think about competing on the access to capital point because the other difference obviously is China doesn't have the great fiscal imbalances that we have now?

GOV. GRANHOLM: This is a great question and I think we see a little bit of a window of that with the Recovery Act and the DOE loans and grants, right? So that's very encouraging. And there was a huge amount of demand for those grants. But we have a vast number of manufacturers who didn't have – it cost a lot of money, first of all, to apply for those grants. The bureaucracy associated with them is very significant. And we still have this problem with the banks. So –

MS. WARTELL: Green Bank, is that part of your – have you been part of the –

GOV. GRANHOLM: – I'm all about it because that means that Green Bank will be supplying low interest loans to retool plants and not require all this money upfront. That would be a tremendous solution. If that's part of the infrastructure, the architecture of the energy bill, that would be terrific. But I'm just saying in Michigan we saw a huge number of suppliers go under, who desperately wanted to diversify into green energy and other kinds of products, but could not get access to capital and to retool. And we got all – we call these the Phoenix projects, where the phoenix rises from the ashes. We have all of these plants that are fabulous, with great infrastructure, rail, we have all these deep water ports in Michigan. We've got a huge ability for somebody to manufacture stuff and get it out the door, but the equipment is super expensive. The machining associated with this stuff is millions and millions of dollars. And if a bank won't give you a loan, then you've got a facility that's just going to go under and people who will have nothing.

So that's why that access to capital is a critical piece, a component of being able to retool America.

MS. WARTELL: That's great. All right, with that, let us first go to the audience. And I'm going to ask people if they would please to wait to be called and we're going to bring a mike to you. If you would identify yourself and your organization, please. All right, let's start right over there, if you would Christine (sp). Thank you. It's not Christine, but yes, go ahead. Yes, thank you.

Q: Governor, thanks for being here. My name is Tom Hardwick (ph) with the Upstart Energy Solutions Group in Boeing Company. Yes, we do something other than airplanes.

GOV. GRANHOLM: Good.

Q: And in fact, we –

GOV. GRANHOLM: I like the name "upstart," sounds radical.

Q: – we actually did a trial run in one of those factories that you just alluded to, former auto manufacturing plant in Michigan to do some CPV, concentrated photovoltaic

manufacture recently. And some other folks besides me are crunching the numbers on how that went. So I don't –

GOV. GRANHOLM: Talk to me, baby. (Laughter.) Because – have you been talking to our people? Because we've got great incentives. We want you to come to Michigan. I say this to anybody. Come, we're hungry. (Laughter.)

Q: – so we were just there and we'll let you know how it went. But it's not my project, so I can only talk about what I've heard so far. What I want to ask about is in your introduction, you mentioned the blackout, the blackout crisis shortly after you came in and on your slide – glad you brought this one back – it says infrastructure, although you broached over it quickly and it's with respect to investment. What I want to ask you about as a public official is the myriad of 51 public utilities and government regulation and all of the different bodies that exist in the U.S. to regulate infrastructure and making a rate case. It's not just a matter of coming up with the technology or finding the investment. It's a matter of who coordinates it and who gets us across this valley of death of implementation. So could you talk about that challenge, please?

GOV. GRANHOLM: Yes, for sure because this is – this is the critical piece of making sure we can get renewable energy from one place to another. It's one we had – the regional governors across the country have banded together to try to set up a protocol – series of protocols for regional coordination with respect to a grid investment. And the nimbi problems exist everywhere. We understand that in terms of the transmitters and all of that. But we want to make sure as a state and as a nation that the investment occurs.

It's difficult to get states to do it because – in terms of pure investment – because the states themselves do not have the resources to be able to make significant investments. So it's either through the energy policy of the state or the utility commissions, or there's something that happens on the federal level to ensure that that goes on in terms of the investment themselves as well as the policy. This has to happen at the federal level. There has to be some federal sensitive oversight that occurs, not just oversight, but actual recommendations and money behind it to be able to get the stuff from one end of the country or one region of the country to the other.

You're not going to find it happening if you ask individual states because it's just too expensive and we all have constitutions that require us to balance our budget. We cannot deficit finance. But if we believe as a nation that this is important, then I think there's many more resources and packets available on the federal level to make it happen. It's got to be federal policy.

MS. WARTELL: Let's go to the aisle in that same row and then we'll go back.

Q: Hi, thank you, Governor Granholm. Anita Balachandra with TechVision21. You've talked about what should be in an energy bill. We've not had a very good year on that issue. Can you talk a little bit from a political perspective and as an executive

from a Midwestern state on what is going to be necessary to change our national attitude toward comprehensive energy and climate legislation to make it happen?

GOV. GRANHOLM: Well, I think that – I think that we have to get off of the debate about whether global warming is occurring and I think that we have to – not even – I think we have to talk about jobs. Assume that 132 countries that have made a commitment to have a 50 percent reduction in their CO2 emissions by 2050 that that's going to happen and assume that those who have analyzed the jobs that are inherent in that are accurate. So it's all to me – the best argument is about jobs for America. Every single state has seen this shift in manufacturing jobs. And we need all kinds of jobs for all kinds of people. And we are completely turning our back on this manufacturing opportunity and heritage. So to me this conversation has to be about jobs, not is the planet getting warmer or not. Let's just talk about the opportunity for jobs.

MS. WARTELL: Okay, why don't you go in the back over there, that woman? Thank you.

Q: Hi, thank you, Governor. My name is Tony Green. I work for a member of Congress. And the question I have that relates to some of what you say here is tell me what to tell my member of Congress about trade policy because I see it through out here, especially –

GOV. GRANHOLM: Who's your member of Congress? Is this a confidential conversation, just you and me? (Laughter.)

Q: – am I too quiet?

GOV. GRANHOLM: No, no, no, I'm just wondering who your member of Congress is.

Q: I actually work for the member of Congress the three auto dealers to raise their hands in the first hearing if they had driven to Washington. (Laughter.) Congressman Sherman.

GOV. GRANHOLM: It's a really affective moment, can I just say? I was horrified, but anyway. (Laughter.)

Yes, let's talk about trade policy. I think it's a great question. Now, I have a certain perspective on this. I say all the time in Michigan that the way these trade agreements have been enforced, NAFTA and CAFTA have given us the SHAFTA. And for our members it's really true that we have had a wimpy policy with respect to the enforcement of trade agreements. And the other countries that are doing business with us, they're laughing because they know that they are able – this giant sucking sound that Ross Perot predicted of jobs that would be sucked to Mexico? It has totally happened because we have not, A, negotiated trade agreements that require our trading partners to abide by the same rules that we abide by, and B, we have not enforced the trade

agreements that we have. And so you talk to any of these suppliers and they'll say that in China there's theft of intellectual property. There're designs et cetera. When we need to enforce the damn law – I'm not saying that we are – excuse me, but I'm just so upset about it because we are the poster child for where this pain is, is in Michigan. But truly, if we're going to have trade, which we should, and we see that export opportunity, which we should, and we cannot be afraid of the globe, we should embrace it, but we have to make sure that we are operating on a fair playing field. I'm not talking about putting up barriers here. I'm talking about taking down barriers in other countries. And that's what we've got to do. I think that's what – I don't know where your employer is on – I hate to say member – I don't know where he is on this issue. Where is your mind? (Laughter.) But I think fair trade is really critical. It's a good thing I'm not running for anything. (Laughter.)

MS. WARTELL: All right. Let's see. Let's go back over here. This woman has been very patient. And then we'll go over here.

Q: Hi Governor Granholm, I'm Renee Schoof from McClatchy Newspapers in Washington here. I wanted to ask you a little bit about where Michigan stands on the Clean Air Act changes that are coming ahead from the EPA, tightening up on smog and toxics like mercury. In this transition to cleaner energy, do you think that your coal fired power plants need a bit of a break on some of those standards?

GOV. GRANHOLM: Yes, in Michigan, we had about eight applications for coal fired power plants. And in my energy bill that I signed into law in 2008, I said that operators of those plants would have to demonstrate the need before being able to get a permit. Obviously there's been a lot that has happened since October of 2008. And I support what's going on with respect to what's going on in the effort to insist that greenhouse gases are a health danger. I think it's important for us as a nation to send a signal that we want to transition to clean energy. Of those eight power plants that had applications none of them have come online. I've rejected permits for one. One has pulled back. A couple of others, there have been market realities that they've decide not to pursue it. Our demand in Michigan has been reduced because of all the plants that have gone offline as well. So I think that the trend toward being very circumspect about regular coal – I'm interested in seeing what happens with respect to clean coal and the technology breakthroughs that are going on there, but there again it's very expensive. And it's not clear what the definition of clean coal is to begin with. But the bottom line is we know that we're not going to be able to use all of our energy from solar and wind, at least at the moment. So we're going to have to have a blend of uses, but to the extent that it doesn't make sense for new coal fired power plants to come online because both of market realities, as well as hopefully what we see as renewable energy realities, I think that's a good message.

Q: (Off mike.)

GOV. GRANHOLM: Yes, I speak for myself as governor. I don't want – I wouldn't like to see the weakening of the standards. And I understand that there's

industry pushback on that. And I understand why that is. But in the same way that I've – if you – in the same way that there was – there's always resistance to change. And we recognize that. And so if we resisted change today, first of all, we wouldn't even have an auto industry. But these same kind of headlines that resisted corporate average fuel economy standards – now, granted at the time when we resisted those, it was because it was going to be on a state by state basis. And you can't have a regulatory environment where you're building 50 different types of cars for 50 different states. So having one national energy standard was very, very important. And that was the way that the auto companies came online and are willing to look at these higher standards. But the bottom line is I think that resisting rather than getting in front of change is not a good idea.

MS. WARTELL: Let's go to the gentleman who is right in front of the last questioner and then we're going to come back over to the side.

Q: Excuse me. I'm Alan Kotok with Science Business Blog. I was told by a workforce expert about a year and a half ago that American students are interested in becoming scientists or engineers. They want to become lawyers and financial analysts. And as a result, we have to raise the cap on H1B visas and outsource our high-tech jobs overseas. Is that the case for students in –

GOV. GRANHOLM: In Michigan?

Q: – yes.

GOV. GRANHOLM: We – this is a really – yes, I appreciate the question because I think it's a really important one as a nation that is a player in the globe. And obviously we want to invite international students to the United States and international workers to the United States. But it doesn't mean that that's the solution. Obviously focusing on our own science, technology, engineering, and math curricula is critical. And I think what Arne Duncan is doing is fantastic in terms of high standards curriculum et cetera. And it's really been very beneficial in Michigan.

I can tell you that because of our history with manufacturing, we've got more concentration of engineers than all of the other – especially with related to mobility, transportation – than all of the other states plus Canada and Mexico combined. We have 330 research and development centers in Michigan related to the next vehicle in some way, shape, or form. So in Michigan your question is a little bit skewed because we've – it's in our DNA the manufacturing and then finding solutions to the problems that are appearing on the horizon is critical. We are always the state that's number one in the robotics challenges et cetera because all of these – (inaudible) – auto suppliers would nurture and be mentors to kids and the system to doing the robotics challenges et cetera. All of that is really, really important. So I think that you can do both. I think that you can temporarily at least or at least in some measure invite international strength into jobs in the United States, but I also think we have got to focus on raising the bar with the kids who are in our own schools and getting them interested in solving problems, which is what engineers do.

MS. WARTELL: Right I had promised the left side of the room we'll go over there, and then we'll go here. Thank you.

Q: Thank you for coming today, Governor. My name is Monica Schneider. I'm with the Building Codes Assistance Project. And we work on energy codes. So I was glad to hear you talk about efficiency as first fuel. And I'm also glad Michigan is finally finishing up its process of updating its –

GOV. GRANHOLM: We know, yes. That's excellent.

Q: – good job, Michigan. Hopefully you implementation will go as well.

GOV. GRANHOLM: Yes.

Q: But as you probably know better than anyone, there's gubernatorial race happening in – there's 37 governors races actually this year, so there's going to be a lot of transitions. And while you've shown great leadership on this issue, how do we ensure moving forward, since so much of this happens at the state level that that leadership continues and that we get the message out that governors really need to lead their states on energy?

GOV. GRANHOLM: Right, I think – this is a great question, too, because there is going to be huge massive change across the country in terms of governors' races. We've just had our primary two days ago, and so the two man who are going to vie for the position of governor in Michigan, both actually I think have taken a strong position with respect to clean energy jobs, which is great. And truly in Michigan because people are seeing all these battery companies popping up all over the place and they're extremely proud of the Chevy Volt, which is going roll off the line in this fall. There is a sense that we cannot turn back. In fact, in Michigan, we've got nowhere to go back, too, because the foundation really crumbled and we've only got to move forward. So in Michigan I'm less worried about having somebody there who's committed to this kind of policies, but across the country, I would be. And that's why I think that whoever is – you all are somehow maybe touching on organizations that are trying to spread the message, or maybe there's a few of you who are trying to prevent the message from being spread, but the bottom line is if we're not talking about jobs, then it's not going to resonate across the country, I think. Maybe I'm just speaking with myopia from the industrial Midwest, but I'm just saying that we've got a 13.2 percent unemployment rate. The underemployed rate across the country is enormously high. If we can train people for these kinds of jobs and allow displaced workers to build this energy future for America, why wouldn't we do that? And have the policy in place that can get the results. That we know what's happened in other states.

I always – I love the phrase "in God we trust, all others bring data." (Laughter.) So we have data out there from other countries, right, that have done this and have created jobs. In Sweden, with their push on energy, they've created 400,000 jobs. Now,

Sweden is the size of Michigan. And they've created 400,000 jobs in this clean energy sector. If they can do it, we can do it. And that's – having examples like that I think is really important.

MS. WARTELL: All right, let's – last question here, please.

Q: Thank you for being here this morning. My name's Bobbie Faul-Zeitler. I'm with Green News Update, which is an electronic news service on sustainability. I've written a fair amount about Detroit and I feel like we'd be remised this morning if we didn't ask you at least to say a word or two about bringing back Detroit and where the energy agenda may fit in there, along with all the plans for reforestation, urban farming, food et cetera.

GOV. GRANHOLM: Yes and appreciate the question. Detroit, of course, is a city that was built for two million, with a population that's now less than one million. And so there's a lot of questions about how you reuse the vacant land that's unlike any other city in America where there's issues with respect to too much density. In Detroit it's the opposite. So we are really pushing urban farming and reusing space and making re-greening of space. But we're also – many of the factories themselves, like the factory that the president was at – two of them. One was in Hamtramck, which is inside – it's a little city inside of Detroit. And the other one was the Jefferson North Assembly Plant, also in Detroit. Those – building of the next generation vehicle, huge amount of hope. But I think the infrastructure is really important, honestly, and I think the school system is really important.

So two days ago, the secretary of transportation was in Michigan, giving us his blessing for a commuter rail line, which we've never had. Detroit's been the motor city, right? So we haven't had a rail line like D.C. has or any other major city. This is our first step. We're going to have a rail line that ends up connecting – the Midwest rail initiative – from Detroit to Chicago, from Detroit up to Pontiac, from Detroit to Ann Arbor and then all the way through Detroit. That's an important step.

One last word and I apologize because I do think – and this question that was raised about education is so very critical that no city is going to be a magnet city unless its school system is magnetic. And Detroit – we have a long way to go in that. And so I'm obsessed with the issue of education in Detroit and in Michigan and that is a battle that is ongoing right now, right now, as I speak, as a matter of fact.

MS. WARTELL: Well, I hope that we can then invite you back, governor, to talk with us about the education policy agenda that is so important in the country.

GOV. GRANHOLM: Huge, huge, huge.

MS. WARTELL: And lots of cities are wrestling with that same set of issues. I could not imagine that we could have gotten not only as terrific an overview of both the challenge and the opportunity and as entertaining a way to spend our morning.

So please join me everyone in thanking Governor Granholm.

(Applause.)

(END)