ORANGE COUNTY

CLEANTECH SYMPOSIUM SERIES

3RD EVENT - SETTING THE COURSE

Date: February 18, 2009

Time: 8:00 a.m. - 11:45 a.m.

Location: UCF Executive Center
Orlando, Florida

Reported by: Leslie Richmond, RPR

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Presented By:

University of Central Florida
Venture Lab

Orange County Government
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## Purpose

The purpose of the symposium series is to engage *local government & economic development officials, university researchers, associations, support services and cleantech companies* to better understand the cleantech community and to collectively help foster its growth in Central Florida. Clean is more than Green.

**3rd Event – Next Steps - Setting the Course**

**Defining the Climate**
**What Attracts These Companies?**
**Key Infrastructure Needed to Support Clean Tech**
**What We Have - What is Missing?**

**Sponsored by AquaFiber Technologies Corporation**

***There is no cost to attend this invitation–only event.***

## Agenda

### Wednesday, February 18, 2009
### Cleantech – Next Steps Setting the Course

**8:15 – 8:20 – Opening Remarks & Welcome**

Kirstie Chadwick, UCF Venture Lab

Recap of Orange County Clean Initiative
Discuss Next Step in the Process – Format for the Morning

**8:20 – 8:30 – Keynote Speaker Introduction**

John Lewis, Orange County Government

**8:30 – 9:30 – San Diego Story (Sharing Best Practices)**

Jacques Chirazi, Program Manager, San Diego Clean Tech Initiative

**9:30 – 9:45 – Networking Break**

**9:45 – 11:00 – Working Group**

Facilitated by: Nyda Bittman Neville, TNB Consulting
with
Marielle Granjean, UCF Institute for Economic Competitiveness

A Cursory Review of 10 Programs, Policies and Projects
with Brief Time Allocated for Feedback

**11:00 – 11:30 – Open Forum**

**11:30 – 11:45 – Closing Comments/ Adjourn**

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### Contact

For more information, or to register for the event, contact:
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christa@cksmarketing.com

*This page was last updated on 02/04/09.*

P R O C E E D I N G S

MS. CHADWICK: Okay. I think we're going to go ahead and get started. First of all, can everybody hear me? Is this microphone on? Sounds like it is to me. Okay, super. My name's Kirstie Chadwick. I'm the director of the venture lab out of the University of Central Florida. We have been helping mentor and moderate and what not this series of symposiums focusing on Cleantech, of course, and we're glad all of you are here, and welcome. I'm going to run through some quick housekeeping topics, and then quickly turn it over to the folks that have all the good stuff.

First of all, I'd like to thank a couple of our sponsors. Mitsubishi Power Systems has generously sponsored today's keynote speaker, which is Jacques Chirazi coming in from San Diego to talk about some of the best practices going on in that area and that region, of which is one of the premiere Cleantech type of economic environments going on here in the United States.

Jim Williams was with us last time. He did a wonderful job presenting Mitsubishi's Cleantech initiatives, and that was very valuable, and Shaun Wattles, as well from Mitsubishi.

Also, the Orlando EDC, they helped us sponsor

Jacques' trip as well, and we had a wonderful dinner last night with the EDC folks, and they'll be giving a tour for Jacques today as well to help him get the lay of the land here in Orlando so we can brag about what we do, because it's some pretty cool stuff.

And then AcquaFiber, Tom Bland is right here. He's been a cheerleader of these events from the beginning, so we greatly appreciate their support as well. He does all things algae, so if any of you have an interest in algae and cellulotic, you know, oils and all kinds of stuff like that, he's a fantastic resource for everybody in that domain to chat with.

And then Orange TV. You can see the cameras here. All of us that are standing under the lights get to be on TV. It's a little disconcerting. They keep wanting to interview us, and I hate that part of it. I was asked by these wonderful gentlemen if you -- especially during the open forum session of today's event, if you have comments or questions or things you'd like to share, please walk up to the microphones that are standing over there, because, otherwise, you won't get to be on TV, and that would be a shame because we are trying to collect all the content that's going on at these events so that we can collate that and integrate that in with all the folks that are going on here.

And, of course, the forum that we're at right now is the Executive Development Center that's part of the College of Business out at UCF, and they have graciously supplied these facilities for us over the last few months.

And, with that, I want to just quickly go over the format for today. It's going to be a little different than what we've done in the past for those of you guys who have been at all the events. In the past, the last three events, we've been doing all the talking and you have been doing most of the listening, but this time it's your turn. So John Lewis and George Rodone from Orange County are here and they'll be chatting briefly about their -- you know, kind of the high level goals and objectives of this whole process that we're going through, and then Jacques Chirazi will be presenting and talking to us about the San Diego efforts, as I have already mentioned. And then the rest of the event will be an open forum. We -- the folks over with Sean Snaith's group, Youth for Economic Competitiveness, they are doing all kind of market research and what not on this particular sector and have come up with a whole list of best practices that are going on in various regions all over the country in the Cleantech space and have selected 10. Not that those are the best or worst

of the 10, but the 10 that seem to potentially have a fit for our region, and are going to introduce those to the group and open the floor for each of the 10 for five minutes or so just trying to garner some feedback as best we can in the short time we have from all of you on whether you think these are good or bad or some ways we could tweak it for our region. And then we will hand out some scorecards and survey forms for you as well to give us some written feedback as well.

And, let's see, I think -- did I cover everything, John, that you would like me to cover and Orange County TV folks?

All right, super. Okay. So with that, I will -- I'd like to turn the floor over to George Rodone. George is currently serving as Mayor Crotty's chief of staff here in Orange County, and in this capacity is responsible for the operation of one of Central Florida's highest profile elected officials, of course, Richard Crotty. He's also responsible for the County's economic development initiatives, which is his function here today as we're talking about, you know, growing the Cleantech sector as a strong economic development initiative of the Mayor. So with that, George?

MR. RODON: Thank you, Kirstie. Thank you very much. I was going to recognize some of my friends in

the audience, but that would take all morning because I think I know most of you. This is what I call the usual suspect. We get together to find ways in which we can make our community a better place through innovation and through creativity and in ways to help businesses succeed. I had the pleasure this morning to be with Jacques, the speaker that you will hear from shortly, and I think you will be impressed. And I want to thank the City of San Diego for sharing you with us, Jacques, this morning. Mayor Crotty is not available this morning. In fact, I just got an e-mail that at 9 o'clock this morning we have a telephone call in regards to the stimulus package and what it means to Orange County. We had a conversation earlier because no one seems to know. So hopefully we'll find out, and hopefully it will be good news for some of you here in the audience.

I think we're at a crucial time in many ways having to do with clean technology at a time when local budgets, local governmental budgets, are at a stress point. But Mayor Crotty sends a message that he will not give up on his goal to continue his efforts to make this a green community and to have a lasting affect in what he does in his last couple of years in office so that we leave a legacy for our children and

grandchildren in this community and in other communities to preserve the environment. And I think this is what it's all about, how we can, as he puts it, take the green technology into green, meaning the economic aspect of the green technology.

I want to thank a few people. UCF. Without UCF, we wouldn't be here and we wouldn't be able to do these forums and many things that we do in county government, and many of you are with UCF here in the audience today, and we enjoy a wonderful relationship with, I say, the sixth largest university in America, and somebody said maybe the fifth today. It is the fifth. So if we had this forum next week, it may be the fourth. But it's certainly one of the best kept secrets and one that we need to continue to exalt and give accolades to because it is a wonderful partner for Orange County.

Others could be thanked, but I'd be here all morning. But I want to thank one person in particular, because when Mayor Crotty has a vision as the Mayor of the County, it is up to staff to take that vision and make it operational. And I can't think of a better partner to do that than John Lewis. Many of you know John, and it is because of John, I think, that we're here this morning. It is because of John that some of you are here this morning. And I stand tall next to

him, although I think he's still a little taller than I am. So with that, I'll introduce my partner, John Lewis, who I always say he is the brains behind the operations here in Orange County. But on behalf of Mayor Crotty, welcome to this symposium, and I will sit in for a little while, then I'll see what the stimulus package will bring us, and as soon as I find out, I'll let a lot of you know. Thank you.

John?

MR. LEWIS: Thank you, George. I'm John Lewis. I'm the economic development administrator for Orange County and I work for George Rodon. And I want you to know, and I think most of you already know, that George is on the front lines of economic development in Orange County and Central Florida. He's also behind the scenes, out of the box, over the top, and around the corner sometimes. So he's everywhere working for the benefit of Orange County. And what I try to do in my job is just to keep up with him.

This is our third symposium, and I think the starting place is to remember the definition of Cleantech and what Cleantech economic development means. We try to restate that at the beginning of each symposium to have some continuity among them all. And so we need to just remember that -- what Cleantech

means, and this definition is from Ernst and Young. It's similar to the ones used by the Cleantech group and it's similar to ones that are used by San Diego and every community that's serious about Cleantech. Cleantech encompasses a diverse range of innovative products and services that optimize the use of natural resources or reduce the negative environmental impact of their use while creating value or lowering cost, improving efficiency, or providing superior performance. That's difficult to remember. So one of the things we did at the very first symposium was to make a formula out of that, that clean is more than green. Cleantech is equal to clean, plus innovation, plus value added. And I think that simple formula is a easy way to remember what Cleantech is.

My first job out of college was teaching college, teaching economics at University of Austin, State University of Texas, and they had a forestry department there and we all had to speak from different departments at Earth Day. As an economist, I was a little out of place. Economics and Earth Day didn't quite match back in 1969 and 1970, but today they do because of Cleantech, because of the words, innovation and value added, in the formula. The definition of Cleantech Economic Development that comes from that, at least the

one we're proposing, is attracting, creating and growing the innovative high value companies that produce the products and provide the services that allow us and the rest of the world to go green.

When you look at the stimulus package that Governor Obama signed yesterday, Sean can tell you, especially because he's out there talking about this all the time, that there are arguments on both sides of what the affect will be, what the impact will be, and what's going to happen because of it. But if you stand back and just think about what we've been all about here for the last five years, 10 years, it really comes back to that in determining whether cities and regions and states and nations are going to be successful. And that's invention, innovation and entrepreneurship. The cities and communities that are most innovative, that have the most and the best entrepreneurs, the ones which have companies that from time to time come up with new inventions for new ways of doing things or new ways of doing old things, they're going to be the ones that succeed. And there is no place where technology is more in the cutting edge of making a difference than in Cleantech. It's going to affect every area of our community, every sector of Orange County, and every industry in Orange County. We want to make sure that we

take full benefit of developing the Cleantech environment.

When we started this and Mayor Crotty asked us to include economic development in his orange to green initiative, we went looking around and quickly found that the buzz word was Cleantech. The first document that we found on the Internet was the Cleantech study in San Diego. This is really the model, the starting place for what we're doing. San Diego also had some round tables and symposiums related to the Cleantech efforts, and we learned from that. One of the things that we did that was a little different, I think, is that we started the Cleantech study and the Cleantech symposiums at the same time so that each one of those would support the other. The other thing that we did is made a commitment to have a court reporter. That's what I call Leslie Richmond here from Zacco Associates, transcriber, to provide a full transcript of every one of our symposiums and have Orange TV here to provide a full video of every presentation. We'll have these up on the Orange County website shortly. All of you, I think, have been e-mailed the transcripts and the presentations. And our purpose in doing that is so that our symposiums have a lasting value after the event itself. You know, you go to so many conferences, so many meetings and seminars,

and most people forget at least a good percentage of what they heard at those events the next day. A week or two, or a month later, it's pretty much all gone. So we want these to have lasting value so that you can go back at anytime and read the full transcript, watch the full video of any of the presentations. I'm hoping as we go along that that doesn't decrease attendance. It could occur to somebody, gee, why do I need to get up at 7 o'clock, 6 o'clock in the morning when I can go watch the videos and read the transcript. We're happy that you still come out to meet with us in person.

It's a real pleasure today to -- let me just emphasize again, there's two parts to our initiative. The Cleantech study which is looking at our assets and capabilities and possibilities in the area of Cleantech, and then the symposium series. And we're happy and fortunate that our UCF Institute for Competitiveness and our venture lab is heading up those two initiatives. One of our goals over the last 10 years is to develop internal capabilities in our community for doing these kind of studies and these kind of symposiums without always having to go to an outside consultant from Austin, for example, to do some of these things for us, and I think we've reached that plateau where we have the Institute for Competitiveness and the venture lab. Both

programs, by the way, were part of Mayor Crotty's stimulus package during the last recession. During the last recession, a lot of communities were doing bi-local campaigns, and Mayor Crotty wanted something more substantive than that. So we started -- helped to start things such as the incubator and the venture lab, a free advisory board council for Orange County companies, and we continued to fund those, and they're a very important part of our economic development efforts.

The second part of this symposium. As Kirstie mentioned, will be the discussion of some of the possibilities, some of the best practices. Now, this is not a long in depth discussion of each one of these ideas. What Marielle Granjean, the product leader, has done in consultation with others is look through the Cleantech study in San Diego, other reports, whittle it down to 10 ideas that kind of cover a broad range of things that we could be doing here. Some that are relatively short term, some that are relatively long term. What we'll do is spend like a minute or two showing a couple of slides describing the essence of each one of these ideas, then we'll ask every one of you to tell us what you think about it for a couple of minutes, and then to indicate on the survey form that will be passed out, the feedback form, what you think.

Is this -- do you think this is something important that we ought to be looking at, or maybe it's less important. Which one's the most important over the next two years, which one is the most important beyond two years. Just an initial indication, just on the surface of it, which ones seem to be better ideas than others. This will be tremendously helpful to Sean and Marielle as they go further down the road in developing the study.

Our next symposium, the date yet to be determined, we'll come back and Sean and Marielle will present a draft of the study above before the final version is made.

But we're kicking off this morning with Jacques Chirazi who's the manager of the Cleantech Initiative for the City of San Diego. He is, I think, one of the nation's recognized experts in the area of Cleantech. If you look at his resume, he has an all encompassing job. He's responsible for promoting, fostering and coordinating strategic alliances and collaboration among local, regional and federal institutions to develop and execute a Cleantech business, attract a strategy for San Diego. He advises the San Diego Mayor in the development of a Cleantech advisory council composed of industry leaders, government officials, educators and consultants. He works to remove regulatory barriers and

align city operations, policies and programs to grow a Cleantech cluster in San Diego. A big job. He probably needs a break from that job once in a while. That's probably why he came to Orlando today. Prior to this job, Jacques was the corporate development manager for Bainbridge Incorporated, a well respected strategic management consulting firm with Fortune 500 companies. He has a master's degree from the University of California, San Diego, Graduate School of International Relations and Studies. He has a bachelor's degree in marketing. He is the rocket scientist of Cleantech. And you will see this as you look through his resume. One thing that stood out to me in looking at presentations that are on his schedule is that he will be the keynote speaker at the Advanced Capacitors World Summit, 2009. If that doesn't make him the rocket scientist of Cleantech, I don't know what does.

But we're happy to have you here today, Jacques, and we look forward to learning a lot from you.

Thank you.

MR. CHIRAZI: Thank you, John. It's a pleasure to be here. I'm very thankful to the Orange County government and UCF and, obviously, the industry to have me come here.

So, as John mentioned, my role for the City of San

Diego is that I'm the program manager for the Cleantech initiative. My role could be divided in two parts. The main role is to really be the point of contact for any Cleantech companies, whether they're established companies, like Qualcom or General Atomics or start ups, and my role is to help them with the regulatory process, permitting land acquisition and so on. So that's sort of my main role. And the other aspect is developing policies and advising the mayor on moving forward what it would take to make San Diego the destination for Cleantech.

So today I'm just going to have a brief overview of the Cleantech initiative. I'll talk about the study that John mentioned. I'll talk about the other study we just completed in December, which is a benchmark study, so it's the next step. In particular, an assessment of ourselves and how well did we compete against other cities. I'll talk a little about the sustainable practices that the City has been doing. So in trying to attract Cleantech companies, we realize that we also have to become greener as a city. So I'll talk a little bit about what we do here, I'll talk a little about the clean building policies that come from the state, as well as some of the things we're doing at the city level. I'll talk about the von Liebig Center which the

Cleantech Innovation challenge that we launched last year, we had awarded three professors. And, lastly, I'll talk about the San Diego Biomimicry Hub, which is kind of the next frontier for us at Cleantech, and I will be happy to explain that.

So the San Diego Cleantech, it has been changed. Now it's actually no longer called initiative, it's called industry programs because we're moving in and actually formalizing the program. So the initiative was announced in April of 2007. The Mayor announced that he wanted to make Cleantech his next pillar, if you will, for economic development. San Diego is known, very similar to Orlando, we have a very large tourist industry. We also have a very large ICT industry, as well as biotech and aerospace. So he thought Cleantech would be the next frontier, and I was actually hired to help him do that. The first thing that was done really for us is to identify what would be -- how are we going to build that cluster. What are some of the assets we need to have in order to be successful. So the whole goal was to develop a number of policies, incentives and programs that will help attract companies and also provide sustainable solutions overall. So it's sort of a win/win solution. It's not only products that can be available to residential or commercial, but also be

available to cities as early adopters.

As I mentioned, the benchmark study was done in December, 2008. What we also announced in 2008 is the San Diego clean generation program. So this is a solar program that comes from two cities in California, Berkeley and Palm Desert. It's from an assembly bill called AB811, which allows cities to create special assessment districts. Very similar to a Metaruse (sic.) or any type of assistant district. And, here, the idea is simple. When you want to purchase solar panels on your home, it's quite expensive. It can be about, an average home, probably 20- to $25,000. The state gives you about $8,000 in rebates. The rest comes from the federal government tax rebate. You still have left probably around $10,000 or so out of your own pocket. And the issue there is people tend to get equity lines or buy on their own credit card and so on. So what we've done here with the help of the state is this legislation allows cities to create special assessment industry and you opt in or opt out of it. And the way you pay back to this is through your public taxes. So the beauty of the system is, if you buy a system and you decide to sell the house, it stays with the house. So the value kind of stays with the house. In the past, you would buy the system and never recoup your

investment because the average person will sell their home in about five years or so. So we're in the RFQ, RFP process. We're the largest city to announce this program. We're going to focus mostly on solar as the first part of the project, but the golden nugget here is looking at energy efficiency. Energy efficiency will take you further in terms of investment in your home than it would through a solar panel. And the whole idea is that as we develop the program and we are successful, we are going to add incentives for energy efficiency so people will be able to not only get solar panels, but prior to that, they may get an energy audit and may realize that actually if they invest in windows, doors and insulation, they could actually curb their overall energy efficiency by 20 percent, which would lead to a smaller solar system on their roof, which overall would be cheaper. So that's where we're going. And we're really following two cities. The City of Berkeley and Palm Desert are kind of moving ahead with that. So that's sort of the main program the Mayor announced last December. We got a lot of permicity from people who are interested in what we are doing. We're hoping we can be a model for the region and for the county as well.

So the City of San Diego sustainable practices. We've installed about 24 to 28 megawatts of virtual

power on City property. A lot of it is on top of reservoirs for waste water treatment plants, police stations, rec centers. All this is financed without really directly investment from the City. It's through a power purchase agreement. So companies come to us, some energy companies and some other companies, and say they are willing to come up with the up front capital. What happens is the city is locked into a very -- a very good rate for 20 years. So maybe you don't own the equipment, but you have a very low rate over time which is a great way for cities to get investment in that state. So we're really continuing doing that time, and there is a lot of interest from a lot of different companies.

In terms of our own trucks, trash pickup, we have moved away and use now low sulfur diesel fuel as a way to reduce carbon emissions. We're mandating that all city facilities, and it's -- I think it has to be above 5,000 square feet, to be LEED "silver". That's a big change. It's somewhat along with what Title 24 in California, which is energy efficient requirements, which is about 20 percent above the national average. So that's something we're going to continue doing. We're looking also at green buildings for the commercial aspects and residential.

And we also look at reclaimed water. We have two plants in San Diego that basically take waste water, treat it into a non potable water, but it can be used for a number of purposes, and the area that we're pushing for mostly is for industrial purposes, cooling towers and things like that. The issue there is to create a network. You need to have a dual piping system. Very costly. Costs about a million dollars a mile. So it is quite expensive. That's been the longest process.

Before I move on, the two studies that we did, and John mentioned the first one, the assessment study was designed to give us a sense of what do we have in San Diego in terms of Cleantech. And what we find out is we have about 178 companies which fall under this venture capital -- venture network list of -- it's very broad, but we have a number of companies in things like energy efficiency, renewables, recycling waste, and waste water technology. A lot of it is a mixed bag of small start ups. There are like two or three people, two established companies, like the Qualcom, the ACIC, the General Atomic. So we have to cater to all these companies to be able to be responsive to their needs.

So that was the main study. And it kind of gives a sense of where we are. The benchmark study is looking

at six cities: Austin, Texas; Boston, Portland, Sacramento, San Francisco, and Seattle. And San Francisco is looking at the whole Bay area, because it's a very large area. And so far what we've found is these are pretty much leading hubs for Cleantech, but what's interesting is they are all pretty much developing infrastructure for Cleantech, but it's sort of a fair game at this point. Nobody has the silver bullet answer of how to create these jobs. Austin, for instance. So is -- Austin and San Jose, which is part of San Francisco, are really focused on energy generation. That's their sweet spot. That's where they're really focusing a lot of their efforts. Portland, very well advanced in green building, green infrastructure, and biofuels. Sacramento is trying to become the hub for solar. So they all kind of are showcasing their own areas. What we find, though, and it was interesting, a lot of it, the incentive that it provides, it's a mixture of state incentive coupled with local incentive. So they're taking advantage of state incentives. Like in California, we have the enterprise zone program. It's a state program, but they are used in many cases to attract Cleantech companies. We've done that in San Diego in some of the southern part. In LA, for instance, they're using their 20,000 square foot

facility they're looking to build in downtown LA. The funding is coming from redevelopment funds. So there are all these ways to get capital into this market. So the study has been useful.

From there, we're looking at -- we've developed a strategy to kind of help us manage it and figure out where is the sweet spot for San Diego. I mean, are we going to compete in all Cleantech? Probably not. There are some areas that we're not going to compete. What I think will be interesting for San Diego is to capitalize on what we have already. We have a strong biotech. We have a strong telecom industry. We have a strong aerospace industry and some of the other ones. In biotech, there's a lot of research in, obviously, biofuels and bioconversions. So using enzymes to break down cardboard and turn it to oil is actually something that is potentially plausible. In telecommunications, a low powered sensor technology is a huge market that is being looked into. Green buildings and infrastructure. So a lot of interest in there. So I think there's going to be a lot of crossover with this industry. So we've already seen that with a lot of companies that were biotech and now are actually full of -- a company called Verinium, for instance, which is actually a biofuel research company and started as a biotech company.

So in terms of green buildings, the City has this cancel policy 900-14 that was developed in 1997. It has an expedite permitting process for the developer. The whole concept was, well, if you're willing to go use some sustainable practices in the building of your facility, you'll be given an expedite permitting process. The problem with that process was a lot of times the representative will say, well, we'll install a solar panel system, and you would go through the expedite permitting process, but the time people were actually building the system, it turned out they were not building exactly what they were supposed to. It may turn out to be a smaller system. So a lot of times, we realized people were using the expedite services as a way to get through the process quicker. So what the ESD, Environmental Services Department who is responsible for drafting this policy, we've made some revisions to it requiring, you know, a little bit more well defined plan in terms of what exactly you are going to do as a sustainable energy and how much energy you are going to save in terms of not only energy but water as well. So that's something that's in the review process. We're hoping that it's going to create more of a clear understanding with the developers and hoping that they will actually embrace more green practices as

they move forward.

The California Energy Commission has recommended to adjust Title 24 to become a net-zero-energy performance. That's kind of the overall goal that the City's putting for us, residential building by 2020 and commercial building by 2030. That only applies to new construction. It's a daunting challenge. That's going to take a lot of effort, given today's energy efficient homes are very below average. Even though California has Title 24, Title 24 is somewhat close. Today, Title 24 is about close to certified LEED. The new Title 24 will be closer to a silver level. But it's still a long way to go. But it's an interesting part. That will help us create demand. It is actually already happening. People are already planning on developing products that will target these type of areas.

The other thing that is really helpful in California in terms of a government framework is called AB32. It's the Global Warming Solution Act that was passed about two years ago. It's been enacted this year. It's a daunting task. The whole idea behind it is to take 1990 levels and reduce CO2 consumption to a 1990 level by 2020. And then the Governor signed an executive order to have -- by 2050 to have 50 percent below the 1990 level. So what does it tell us? Well,

this is great from a state perspective. That will give us some -- at the top, it will give us some incentive and pressure to get companies and government to change their habits. The 2020 goals, I think it's fairly possible. Given today's technology, I think we could get there. We have solar power, geothermal, all these things are out there. The new materials, lighter materials, so on. The 2050 goal, it's so unknown. I mean, there -- I would think that there's a ton of new innovation that hasn't been created yet. And that's where we're looking at really, supporting innovation today to get that goal possible in the future. And that's where we're heading right now. A lot of the scientists are saying to us that, well, in order to achieve that goal, you would need to completely change the way you build buildings and infrastructure, and, you know, generate power and so on. And I think a lot of it will come back to having -- instead of having power generated far away, it will be generated closer to the end user. And I think it's almost what happened in 1900 when power was generated locally. That's what's happening here.

The next part is this program that we also launched last year with UCSD, and what UCSD -- it's called the von Liebig Center. It's basically a commercialization

center, and it was designed about six years ago, and the whole idea behind it, well, there's a lot of great ideas, great technology that comes from universities, but hardly any of them are being commercialized. A lot of tech transfer in a lot of universities are sitting on a ton of great ideas, but nobody is actually going through the books to figure out what it's actually worth potential investments on. So the von Liebig was created to be this vehicle to get these type of apply research into a prototyping stage. So the whole idea is providing support for the precompanies. These are potential technologies that -- they haven't formed a company yet, but they have a technology that is being validated that is potentially true, but they need some proof of concept beyond the lab. So what we've done here is we decided to say, well, why don't we sponsor a new trek. The von Liebig was focused on biotech, telecom, construction materials, and Cleantech wasn't really a trek, even though they've had Cleantech products in the past for ideas, but they were never listed in one trek. So what the City did at this point is we created a special trek. We seeded a concept, but we told them, we don't want to make it just UCSD. We want it opened it up to other universities. So we opened it up to SDSU, which is one of the other small

research labs, and USD and these two are pretty much coming from either a graduate student's perspective or law students who can help us with that. So what we've done is the whole idea is to provide funding early stage. So we launched it last year. And this is a little more detail about the commercial center. It's part of the Jacobs School of Engineering. It's really proving gap funding for projects, and it's really competitive. You don't get the project unless you get through a very conversant process. There's a technical review, there's an entrepreneurial part of that team. So going through that process, if you're selected, you don't get the full amount right away. You get it in installments. You have to get through specific milestones or specific design by the von Liebig Center, and you also pair with an entrepreneur in residence, somebody who's a serial entrepreneur who has the experience of taking this company public. And what are we providing here? It's mostly -- not the technology evaluation. It's the marketability of their ideas. It's sort of similar to the venture lab that you have here. Is there a market for this and what price would that be and how competitive would it be with other groups.

And this is the area that I want to mention why

we're focusing on this. So when I go back to AB32 and this whole very conversant goal of 2050 to reduce 50 percent to a 1990 level, that's going to be substantial. That's going to happen only with innovation. Innovation has to be nurtured and grown. This chart describes where most of the time, you know, at the front end, basic research is happening, then you have apply research. But that's the area where this is the least amount of money being put in because the risks are very high. And, typically, angel funds, VC funds are not investing in that part. They're already investing in the start up or later stage because they're looking to recoup their investment. So what we've done here is we've kind of looked at the value of that and said, we need to help out here, create innovation at the bottom so that we can create more companies. And the idea behind innovation is simple. Attracting companies, especially Cleantech companies, to come to San Diego and other parts, it is a very expensive process. It will take a huge amount of potential land, you know, that you may have to give away, tax that you have to reduce. There's a story of a local solar panel manufacturer based in San Jose that has been lured to Las Vegas, and the total package for them, including land and taxes, is almost 43 million dollars. So a substantial amount.

And this company is going to move. For us, it's very difficult to potentially play a strong role in that. So what do we have left? We have the idea of if we nurture innovation and get them to go through every process, and only because one of them, once they graduate from there, they will go to either Connect or some other group that we have out there to get them to the next level of funding, most of these companies remain in San Diego. Of all the companies that were actually funded through the von Liebig, I think they've got 76 solicitation over a six year term, they have created 18 companies. And out of the 18 companies, 98 percent of them remain in San Diego. And from our standpoint, that's where I think we could potentially get a lot of growth in the future. Not that we're not getting interest from foreign companies. We've helped a Spanish company called Silicon Renewables, which is about a 340 million Euros company. It's only seven years old, it's based in Valencia, Spain. They decided to come to San Diego, and the main reason is because of the California Solar Initiative, which requires a minion roof in the next 10 years and because of all the substantial environmental rules of AB32. So they thought this was a perfect place for them to do market. So there are special cases where companies will come, but in some instances, it's

actually a difficult challenge. But we are working constantly with companies and taking advantage of what they have.

The one benefit that we have in San Diego, too, that I'd like to mention is the proximity to the border of Mexico, which is a huge advantage for us for potential manufacturing. Some components can be manufactured in Mexico and some can be done in San Diego. And we're actually looking at one particular company from Sweden who has something like a -- in a word, a plug-and-play type of hydrogen technology, and the discussion was that some of the components can be made in Mexico, the balance in San Diego, and R&D taking place in San Diego as well. So that's an interesting aspect. So the name of that program with the von Liebig is called the Cleantech Innovation Challenge. So we really open it up only to faculty. So we're not opening up to any outsider, no grad student at this point. We're hoping to expand it over time, but the main goal was to really open it up to local faculty and teach them and kind of show them that there is opportunity in the Cleantech space. So we were seeding $140,000 for the initial start. We were fortunate enough to get Qualcom to give us another hundred K, so right now we're looking at expanding that process, we're talking to a number of

corporate sponsors, whether it's a solar manufacturer or local utility companies who can have a vested interest to have this program continue over time. So in 2008 we had three recipients. So we've received 11 applications and selected -- we'll basically review all of them. So we had a technical team. It was a two-day event. We have a technical team and a interpreter team. And out of that, that's the three that were selected. So I'd just like to let you know, these are very early stage technology. You are talking about things that could take probably five to six years to really go to market, I believe. Maybe some might be less. It really depends on the market. One of them is a new solar technology using quantum wells. So the whole idea behind why do we have -- the typical solar panels takes photons converted to electrons, and then you use it as power. When you do the conversion, you have an energy loss. And this guy is a genius. All his research has been in fiber optic. Why don't we do the same thing, keep it as a photon, you could either convert it into light directly or convert it back into energy. So he's got a concept. He's working with a team from USD Alliance and USD to -- and these are groups of grad students and law students that are going to validate his idea and see if there's a market and what price would that be at. So that's going

to be the funding for the first year. And then the other one is converting waste heat to electricity. There's a lot of radiant heat being created, whether it's in the car and so on. So this guy has being using nano tubes to do that same thing. And the last one is a gentleman from SSU, a biologist, who came up with a more efficient way to extract biodiesel from algae. And the extraction part of algae production is one of them that -- it's the unknown. We don't know whether that's going to be the most expensive part or the least expensive, but we funded this idea. So all these are very early stage. What we're hoping next year we're going to have, the second year, we're going to bring them back, have them kind of give us an overview where they are and at what stage, if they have been successful through this early stage prototyping process, and when they're successful, we're hoping to compare them to the next level, which might be VC funding or strategic funding from a corporate investor or so on. So that's sort of the guinea pig at this point. So we don't know what will be the outcome, but the goal here is to help create innovations at the local level.

The last thing I would like to talk about is a thing called biomimicry, and I don't know if people are familiar with biomimicry at all. It's been around since

the 1970's. Biomimicry is really two things. So bio meaning life, mimic meaning to imitate life. Here's an area that we think has huge potential for us. And nature, in a nutshell, had 3.8 billion years of evolutions, right? Of all the species and plants we have today are the most probably the top of the top. The only reason they're here us because they survive, adapt to life. What biomimicry does is looking at life's answers to today's problems. So what we've done here is create a partnership with the San Diego Zoo, which has been around for sometime, and do research in 32 countries around the world so they have the wealth of knowledge and they have something like 4,000 plants and animals at the wild animal park and at the zoo, and we also partnered with the Biomimicry Institute and Guild, and the whole idea is to create San Diego sort of a natural hub for biomimicry. So we're hoping people will come to work with the Guild Institute and the zoo, and in doing so the local companies may see inspiration in creating new products. And there are about a hundred products out there, and I will be happy to talk to you some of them. But this is a very interesting area. It's sort of 10 years down the line. I mean, we're talking about something that could be unique in the future and that's what we're sort of betting on. So the

collaboration is with the zoo. If you're interested to learn more about it, it's a lady, her name is Jane Banius. She's the one who wrote that book about biomimicry in the early 1990's who kind of said, nature has all the answers. Nature is the most efficient way to generate power.

Today, solar panels, invented late '60's, early '70's, the efficiency rate in a silicon panel is about 20 percent, depending who you talk to. They say 20 percent, right? So that means every photon that actually hits the cell, only 20 percent actually come into electricity. If you look at photosynthesis, it's a hundred percent. So there are companies out there trying to recreate photosynthesis as a new form of solar panels.

Materials. Some form of seashells turn out to be stronger than the most advanced concrete that we have today. So the list goes on and on and on, and what we're thinking here is really two areas. What we want to help is education site. In order to get people to look at biomimicry, we need to kind of reintroduce biomimicry and biology at the early stage. So we're looking at K to 12 high school certification programs and four year degrees. And the whole idea is an engineer like those two engineering schools probably

does not have as much exposure on biology and other aspects. And I think what we're hoping is coming up with programs that will -- elective courses that will help them kind of diversify the skill sets. And we're actually having our first symposium on biomimicry on education in October in San Diego. It's going to be a two-day event. We're going to have a number of faculties from local universities, and we'll be discussing specifically about curriculum. There's a local charter school called High Tech High who actually embrace that model and are pulling together with the help of the zoo, which does a lot of education, a biomimicry kind of course for kids. And it's going to be interesting because they're going to be asked to do an evaluation of San Diego in biomimicry and what are some areas that are being untapped in terms of nature's design that we could be using for solving our own problem. That's the other aspect is the commercialization aspect, and that's where we want to partner with large Fortune 100, 1,000 companies and invite them to come to San Diego to come to the zoo to meet at a table with the folks from biomimicry and discuss their problems. There's a number of companies that are looking to reduce waste, reduce harming chemicals, remove plastic. All this is possible and

potentially can be answered through biomimicry, and the whole concept is bringing what they call designer of the table. It's a combination of engineers, chemists, biologists, zoologists, and they all discuss together what are some of the possibilities there. So some of the examples. One of them is the most common one being talked about is the termite mouths. It's a self cooling system. These mouths are all over Africa. The temperature could be a 105. Inside, the mouth is always the same temperature. Well, how does that work? So they discuss -- they break it down and they realize that it has a natural flow of air, so cool air will come from the bottom part and be carried up, and it would create this constant flow. Probably a dozen buildings around the world, one especially in Zambia, has been designed to follow the same model, and it has no air conditioning systems. In some parts of the world, it's very, very warm, and it's because of that whole flow system based on the termite mouth. Qualcam bought a company in the Bay area who's looking at the butterfly. Nature is, per se -- the most prominent color in nature is brown. The butterfly technically is brown, but why do we see all these colors. Because it has microscopic, if you will, mirrors that are built in all over the place and reflect light, which give you the impression of a spectrum of

light. So they went in and said, can we imitate that. And they did. And they immediately assist them for screens that do not require back light. So you could be in bright sunlight and be able to see a screen. So that's the whole concept. The other one that's interesting, too, is the lotus flower. The lotus flower tends to grow in areas where it's very muddy. But the flower itself is always clean. So a German company looked at it and said, how does that work. So they looked at the molecule level and realized it had some sort of hydrophonic properties to the plant. It designed a paint like that, and it's -- I can't remember the name of the company, but basically, you apply the paint, and when it rains, it washes off the wall. So the dust and all the stuff that gets built up on the wall gets cleaned up.

I have an additional product here that I thought will be of interest to you guys. This is a Speedo swimsuit. It was designed based on the shark. The shark is the most efficient animal in the water in terms of speed. That was actually banned at the last Olympics because it would give a small edge. We're talking about a quarter of a second, but a pretty amazing model.

This is the bullet train in Japan. When it came out, great idea, great model. The problem with the

bullet train is everytime, I think -- everytime it went through a tunnel, there was a sonic boom that was created. So that was very inconvenient to residents around it. So they say, well, why can't we do this. How can we figure out a way around this. And one of the designers of the bullet train was an avid bird watcher, and he looked at the -- I think it's called the Kingfisher, and that particular bird, everytime he would dive into the water, doesn't make a sound. Studied the actual structure of the bird. And if you look at the train, it has some of the same -- and now the sonic boom is not apparent anymore. So that's pretty amazing. Tape, right? We all know tape, but do you all know this guy? The gecko. I mean, this is a pretty amazing animal. I mean, it has millions of microscopic hairs at the bottom of his feet, and these hairs are pretty much what allows him to stick to surfaces. You try to remove a gecko, it has 250 pounds of pressure. So not only it sticks, but it's pretty solid. So a company went out and developed a new type of adhesive that is, by the way, fully biodegradable, has no chemicals and so on.

So to kind of end up, this last slide is biomimicry and all the other aspects that we are doing is an area that has a lot of potential for us in trying to create the next generation of ideas. Nature has done it all

already for us. I think it's just a matter of looking back and see what we can use for it.

Questions?

MS. HOPCRAFT: My name is Cynthia Hopcraft. I'm with Eco Cleaning Solutions, and there is a product now existing that's patent pending, and basically it does have capabilities for housecleaning buildings, sidewalks, commercial buildings, hospitals, and everything. I would think that would be something we could put into this program.

MR. CHIRAZI: Yes. Definitely.

MS. HOPCRAFT: How could I get with you after the meeting?

MR. CHIRAZI: Come talk to me. I'll be happy. But there are about, last time I counted, 150 inventions that are fully truly nature based.

MS. HOPCRAFT: Right. And this one is.

MR. CHIRAZI: It's a growing category. I mean, there are --

MS. HOPCRAFT: Sure.

MR. CHIRAZI: The State of California adopted a green chemistry kind of model even though it's still kind of early stage that would require -- you know, force manufacturers and a lot of chemical manufacturers to reduce their chemical contents and look at, you know,

non invasive type of agents.

MS. HOPCRAFT: The active ingredient in this is titanium dioxide, which is a natural mineral. So it's in many products already that we use everyday, so I would think we'd be right in the ballpark.

MR. CHIRAZI: Definitely.

MS. HOPCRAFT: Thank you.

MR. CHIRAZI: Just to give you a heads up, some of the projects I mentioned, these are a handful of things that we are doing. We are doing other things as well, but I thought I would present those. But as I mentioned earlier, this is sort of like a work in progress. I mean we are -- probably by July, we'll have a finalized king of strategy plan to figure out exactly which industry we're going to be fostering and going after, and all of it as has to do with the branding aspect also, which I haven't talked about.

MR. LEWIS: Oh, you're up next, Carol Ann. Go ahead.

MS. DYKES: Carol Ann Dykes, University of Central Florida, business incubation program. We'll have a chance to talk more tomorrow, but as I listen to your presentation and all the assets that you have to work with in San Diego, it's very similar to what we have here in Metro Orlando and Central Florida with the

university and the companies. The piece we don't have is the gap funding. That's the magic phrase that we all talk a lot about and have struggled with. You've done some interesting things in addressing that with the foundation funding, Qualcom, the City. I mean, our local government's incredibly supportive, but what are some suggestions you have to get local industry involved, and the foundation, I don't know if they are looking to possibly fund other places, they're probably local to San Diego, but what are some suggestions you have for us to address that issue.

MR. CHIRAZI: I think one of them is to really engage -- I think this symposium is the basis for it -- is to engage the local companies, whether they're Cleantech or non Cleantech companies. By engaging them in showing that there is potential for job creation and that the government is really behind it, that's where I'm going with the Cleantech innovation challenge. We're not going to be able to seed this process for the next 10 years. We're hoping that the corporate world will take over and see that this really is an advantage. I would definitely find a way to engage the corporate world. Now, there's a number of grants that could be -- especially from the stimulus package, some of the unknown. There might be some money there. We're

looking at the same thing. And I think that's -- the best way is to kind of -- what's ideal, I think, is to make the general public -- there's a value added if you're going to do these type of programs, that they may not provide direct economic benefit today, but they will in five, six years down the line. And I think you need to create the nest before you can move on. And I think that's what that foundation -- it's almost like tapestry building. John and I talked about it many times. You need to have some of the traditional economic development directive in terms of land acquisition and assistance, permitting assistance, and so on, but you also need to nurture innovation at the start. That's what this is all about. This is a discussion that needs to be, you know, repeated over and over. I mean, it was something that -- it took us almost a year to get that Cleantech innovation challenge up and running just because the number of institutions that were involved and the complexity involved behind it.

MS. CHADWICK: My question is related to that one because those of you who know me, that is my personal kind of passion. So, as we chatted about last night at dinner, the investment size for each of those projects was about $55,000.

MR. CHIRAZI: Yes. I did not mention it. Yes.

MS. CHADWICK: Yes. And I did want to clarify the funding from the City, the hundred K that's coming in, that's for current, correct? Or is that a one time grant?

MR. CHIRAZI: That was a -- to be honest with you, that was a one time issue at this point, but I'm working on getting the City to have a special line item for Cleantech in general programs. Because that 140,000 came from an EDC contract that we have, so technically this year we don't have funding, but I have a proposal on the table to not only allow funding for this for the next three years, but also funding for the other programs. That's really the battle that we're having because the fiscal situation is pretty tough.

MS. CHADWICK: So a couple of kind of thoughts. First of all, if it's just one time, then it's very limited, but even if it's recurring, 55, 60, 70K --

MR. CHIRAZI: It's not enough.

MS. CHADWICK: -- for a project that early in the development cycle is just a drop in the bucket.

MR. CHIRAZI: Definitely.

MS. CHADWICK: So my question to you is there's a big gap between a $55,000 one time grant on a research project and the time when a company would be potentially attracted to angels or a VC. So do you guys have a

strategy or have you put any thought into what you're going to do to address the capital needs going on after that initial challenge is given?

MR. CHIRAZI: That's a good question. What we're doing right now is the next year funding, we're hoping to raise it to a hundred K. And we are hoping that we could get more corporate sponsors and maybe do less projects, maybe only award two or three, but they will have a substantially higher amount of funding. The next thing we try to do is to try to pair them with some other forms of grants. So we're looking at other ways to get the small business grant and so on, and we're trying to find ways to get additional funding so that when they get the prototyping issues, when they graduate from that program, they quickly move on to the next one.

MS. CHADWICK: But you are going to manage those programs for a while.

MR. CHIRAZI: Yes. And we're actually partnering with a group called Connect and some of the other small groups, and Cleantech San Diego was also newly formed about a year and a half ago, which is also going to become -- but it's the unknown. It's the biggest question that we haven't really found the silver bullet for that.

MR. BRUDERLY: Hi. Dave Bruderly. I'm a

consulting engineer of a company called Clean Power Engineering, and we're focused on life cycle types of issues and trying to find solutions that can work in a marketplace in the energy sector, which is highly subsidized and skewed towards non sustainable energy systems at the moment. The question would be one in general. How do you define green and how do you -- what kind of criteria do you use to make decisions on what are labeled green and where investment goes? And how do you handle the trade offs, because I noticed you had ultra low sulfur diesel up there as an example of you use that versus natural gas, dual fuel natural gas in a bus engine, I guess, or a diesel engine because it produced slightly lower emissions of nitrogen oxide. But you did that at the trade off of going to a high carbon fuel, which is diesel, and especially a highly refined diesel, versus some much lower carbon fuel, which is methane, which takes you on a transition to a hydrogen type of fuel which is zero carbon. And, you know, you made the statement that we're going to have a hard time meeting 2050 goals unless we completely change our lifestyle. I guess I disagree with that because I think we do have the technologies to really achieve significant reductions in carbon emissions on a life cycle basis if we simply have the policy in place that

provides the economic stimulus to make those -- the investments in the right direction. So how do you -- you know, you are taking a longer view here in terms of biomimicry and mimicking nature, and one of the key notes of nature is species diversity. So how do you address these short term trade offs versus the longer term kind of criteria, where the nox is a short term trade off versus carbon which is a longer term trade off. How do you propose to kind of direct investment in public policy in a direction so we get the investment to focus more on the long term solutions, which our economic system, you know, doesn't reward long term thinking, it rewards short term thinking. So how do we change this fundamental paradigm in a way that we can get venture capitalists to invest in the long term rather than the short term and meet these sustainability goals?

MR. CHIRAZI: I agree with you. I think it's a good question. I think part of is, the answer is 8022 in that this legislature kind of evens the playing field. It's saying everybody has to reduce their carbon emissions. You know, that's the standard. The other aspect that is missing, and we look at other countries like Sweden or other parts, when we're going to have at a federal level a cap and trade system, that's going to

signal the financiers and so on that there's going to be a price for carbon. Therefore, there's a way -- abatement technology to reduce that carbon. I think right now we're kind of in an administration that there's a lot of short cuts. You know, we could make short improvement over time, but you're right, the biggest transition is the one that takes the longest time. So I think everybody is looking at us, California, in terms of how successful this AB32 is going to be. Are they going to be able to implement it and are we going to be able to secure long term goals instead of having a temporary fix. Are we going to move away from, you know, hydrocarbons and really moving into maintaining hopefully hydrogen and so on. That requires a step, a pretty incredible change.

California has the hydrogen highway proposal idea. We have, I think, three stations. In my mind, I think if you look at moving forward in the next 20 years, it's going to a combination of all those things. There is no silver bullet into the technology. This is not going to a hydrogen technology a hundred percent. I think it's going to be a combination of having technology in terms of engines, electrical cars, different variety of energy generations, so on. So I think -- I don't know if I answered your question, but I'm expecting the AB32 will

help us finalize. And actually I'm hoping that the Obama administration and new Congress will work over the next year and a half on a nationwide cap and trade system, which actually will signal the other markets that the United States is ready to --

MR. BRUDERLY: An economy wide cap and trade, not just smokestack.

MR. CHIRAZI: Yes.

MR. BRUDERLY: Just to give you some positive feedback, the City of Gainesville last week approved our utility to do a feed in tariff, or a renewable energy payment, and they're paying 32 cents a kilowatt hour to private sector investors and to photovoltaic systems who go on either green fields or on rooftops. They had set a cap of 4 megawatts for the first year, and they've already got at least within -- it doesn't even go in effect until March 1st. We've already got at least one megawatt committed. So there's a tremendous interest in this. We've had people coming from all over the world asking to participate. And, basically, the way this is being funded is with a tax on all the consumers who buy electricity from GRU. And it's about a 1 percent right now tax on -- a fuel adjustment charge. So it's not called a tax, it's called a fuel adjustment charge. But it works. And the key is getting the money into the

local community so it stays in the community and the money doesn't get -- that we tax ourselves to do. We don't want to see it exported to San Diego to support your entrepreneurs. We want to support entrepreneurs here.

MR. CHIRAZI: That's the same idea with the clean generation program for -- obviously, it's all residential right now for solar, and also we want to move into energy efficiency and then water conservation technology through this funding mechanism that will allow us to basically add a super lien on your house. That's when you're going to pay it off over 20 years or so. I'm hoping that's going to be -- we're doing it at a residential level right now, but we're moving into commercial, especially into small commercial, and I think there's a lot of untapped areas, especially in San Diego. We have so much sun. And the other issue in California is we have three major utility companies, and the public utility that we have in San Diego is the smallest of the three, and in some instances they are sometimes dragging their feet when it comes to taking on these new ideas because they're --

MR. BRUDERLY: The major investor on utility in this state is opposed to the feed in tariff concept, even though they're the largest renewable energy

operator in the entire plant. They're opposed to it in their own home state. We have some hypocrisy or something going on that is basically holding back progress in the State of Florida.

We appreciate you coming and sharing your thoughts. Thank you.

MR. CHIRAZI: Thank you.

MR. BLAND: Hi. I'm Tom Bland, AquaFiber. You just about answered my question. I would just ask, where are we in cap and trade in the nation? You say the Obama administration will be looking at it over the next year, year and a half. Do you have any specifics?

MR. CHIRAZI: I don't know much, but I think from the people that I have talked to, we're hoping there will be something in a year, year and a half in terms of -- we don't know what the formula might be like. The biggest question is, are we going to give away those allowances. Are we going to charge for it from the get go. That is one of the biggest sticky points. Are we going to give older industries who have a higher marginal cost a break saying, okay, we're going to give you X amount of allowance, and then eventually after so many years, we're going to have to buy the rest, or are we going to make everybody buy from the get go. That's part of the sticky point. But I think they're looking

at California to see how well this is going to -- I mean, this is the year. This is 2009. This is the year we're going to see how this is working, so --

MR. BLAND: Thank you.

MR. LEWIS: Jacques, it's great to have something like a sister city that we can sort of go forward together with. But one of the differences between Orlando and San Diego is that we have one economic development commission, and they're actively involved in supporting clean technology and our efforts. We have one Cleantech initiative at the present time with our Cleantech study and the symposium series. In San Diego, there is the San Diego Economic Development Commission, the North County San Diego Economic Development Commission, the South County San Diego Economic Development Commission, the City of San Diego Cleantech Program, and at least one other non profit organization, Cleantech San Diego, that's actively involved in Cleantech. There seems to be a lot more players in San Diego than there are here, and I'm sure there are some challenges to that, but there are also some benefits probably also. Can you talk a little bit about the challenges and benefits from having so many organizations that you have got to work with?

MR. CHIRAZI: Sure. Yes, it's true that we have,

obviously, the EDC, and then we have the North and South County EDC. We also have Cleantech San Diego, which kind of is presenting -- actually, they want to be the global trade organization, but right now they're starting with the Orange County and San Diego area, and then we have the City, and then every cities have their own kind of Cleantech, per se, programs or issues around that sustainable clean development, and then we have about, last time it was mentioned to me, about 170 nongovernmental organizations that are focused on sustainability, which may include Cleantech and public health and so on. So, yes, in a sense it creates a challenge because this is almost an overwhelming amount of knowledge and potential sources that we can tap in. So there is a little bit of a turf battle sometimes. And there is a little bit of duplicates. A year and a half ago, two organizations put together a green building conference a week apart from each other. They're going after the same speakers, they're going after the same funding. So one of my roles is to try to get people to create one voice for the region. And the main vehicle that we're using right now, obviously, from the Mayor's perspective, is to use him as the spokesperson and kind of the leader to get people to embrace this model, but also use Cleantech San Diego as

kind of another vehicle for doing that. So the challenge is really too much interaction and difficulty to raise funding because there's a lot of competing issues. And the benefit is having the right people at a table and get things quickly, you know, rolled out. I mean, once you have an idea that has been vetted and people find it successful, then it's very easy to get it funded and move forward with it. So that's one of the advantages, but the biggest problem probably right now is too many interests and not enough focus. And I think that's one of the challenges that we're facing.

MR. LEWIS: I think those comments will be very helpful to us as we complete our first study, complete the symposium series and figure out how to go ahead from there in ways of organizing things. You'll see also I want to mention that when we start talking about ideas in a few minutes for promoting Cleantech, we borrowed some of the ideas from San Diego, and I admit that to Jacques, but I think we've seen today there are some other ideas that we didn't consider yet, and they're also great. One of the things I think that we've seen this morning that perhaps we haven't fully appreciated before is the strong relationship that can exist between Cleantech and biotech, and we're trying to develop our biotech sector also. The examples you gave of the

relationship between the two just really helps you to remember that strong relationship. So I think that's a whole new area that, you know, we need to consider as we move forward.

MR. CHIRAZI: There's a lot of convergent of technology. That's kind of my way of looking at it is, you know, cleantech as people describe it, to me, my best way is the age of transformation. It's not an industry, per se. It's not a sector. It's just something that's going to transform every single industry, and some industries will just come out better and more cost effective in providing the services. As to what I believe, it's really happening now, some industries are further along than others. But the best example as an analogy of all this is, look at the IT industry. Back 20 years ago, 25 years ago, a lot of the jobs, a lot of the -- even the ideas we never thought of. I mean, we didn't know, you know, that we could have, you know, a webmaster or some kind of networking administrator, all the things we do today, you know, the Web 2.0. It's sort of the same thing happening there. And even though the IT started with the financial sectors and moved on to all the -- the last one right now that is being pushed for right now is the medical sector, the healthcare. Cleantech is sort of going

after all them. And the area that I think people are putting the most attention on right now in terms of all these cities is energy generation. Anything along energy. Because energy is the biggest component to economic growth, right? You need -- for every amount of -- you know, of oil or whatever you use as an input, that creates X amount of GDP. And that's sort of the idea, to reduce the energy intensity so that we're able to do more with less.

MR. LEWIS: Very good.

MR. SNAITH: Just very quickly, thanks for coming to visit us. The role of government and legislation in California, obviously, is a key driver in a lot of what's happening and what's going to happen. How important is that, would you say, to the evolution of Cleantech, and what have you seen in those other cities in terms of the benchmark? Are they all states with a sort of progressive policy that stimulates a sector? And are there elements of Cleantech that don't rely on government imposing certain caps or legislation?

MR. CHIRAZI: That's a good question. I would say the short answer is, I mean, in California, everything is driven by the policy. I mean, it's the AB32, the green building standards, all these are kind of the main agent. And I think for what I've seen what is happening

in other states, it's also coming from -- either from the municipalities or the state level. But they're the ones moving forward. And what they're doing, per se, I think is -- like Portland is a good example. Portland was really on the forefront of sustainability 15 years ago, almost 20 years ago. They have the most amazing infrastructure when it comes to the way they design their cities. I mean, so I think that was a perfect segue into getting into that Cleantech space. They're using the sustainability goals to create a Cleantech sector. That's what Portland is on the forefront of, green buildings. They have the largest amount of green buildings being designed there. So is biofuel as well. They're pretty successful. But in my mind, I think, like any other areas, when you look at international studies, it's only when the government kind of -- it's almost a mixture of carrot and sticks. You have to have some kind of incentives, but you also have to have some kind of control mechanism and the regulatory in the mandate as the way to go.

The problem we're facing in places like San Diego is what if we want to be the greenest city and have strict mandates for green buildings. That could have an impact on potential of becoming less competitive for -- compared to other cities in terms of attracting

companies. So there's a lot of reluctance, especially from the Mayor, to, yes, we want to be a leader in that space, but we want to take small steps. So what we're doing is almost like what the state is imposing us to do. We'll try to be slightly a notch higher or a notch lower than that, and then having kind of a process to move toward that area. Some people will say that we're taking too long, so -- because if you look at the global warming situation, if global warming was the main purpose -- I mean, we're about 350 parts per million of CO2 in the atmosphere. I mean, there are -- I think the threshold is 400, 450. Beyond that, we don't know what -- the climate models at that point are pretty much all over the place, so that's what we're getting from the scientists from the Scripps University. So there's a little bit of a hurry in terms of what we need to do today, so.

I'd like to thank you all. It was a pleasure to be here.

MS. CHADWICK: Thank you very much, Jacques. At this point, we're going to take a 15 minute break. While you are out and about networking, see Christa or Jacques over at our badge table and make sure you pickup a form which is going to be the form for the input that we're going to be asking of you in the next portion of

the agenda.

(A break was taken from 9:35 a.m. until 9:50 a.m.)

MS. BITTMAN NEVILLE:. Good morning, everyone. I hope that you have already determined that you are glad to be here, and, again, we thank you very much, Jacques, for taking time and coming from San Diego to share with us.

I'm Nyda Bittman Neville. I am CEO of TNB Consulting Group, and our firm is like a magnifying glass. And what we do is bring focus in the areas of marketing, communication and image to our clients here in the United States, Canada, Australia and Europe. And what we do are three things. We help our clients to market themselves effectively and identify the drivers of choice, what makes you the company of choice. We help them to communicate efficiently but internally and externally, and help to establish then the image and brand that they so desire. It's my privilege and honor to be with you today to help facilitate, because the real purpose of the rest of this morning and this networking and brainstorming session is to get your ideas to those 10 ideas that we are going to present.

Now, in the first two symposiums, we learned about what Cleantech is, and we saw again that definition this morning which I found quite interesting, myself. How

important it is. Something about the organizations and the entities important to growing Cleantech in our own community. And something about the Cleantech companies that we already have here in Metro Orlando, both large and small. This morning, we heard the details surrounding one of the premiere Cleantech initiatives in the nation coming to us from San Diego. Now, we'd like to turn our consideration to some of the ideas for growing a Cleantech sector right here. There are dozens and dozens and dozens of different ideas being implemented and thought about across this country. So the group took painstaking effort to identify 10, and, of course, you heard John mention that a little earlier. So they've selected 10 ideas that represent the range of what is being implemented, and what we want to do is to get your reaction. This isn't necessarily a Q&A, but it is more of gaining your input through several venues. First, as we go through each one, as Marielle presents each one of the 10 ideas, after she has shared the key points with you, then I'm going to open that up for you to step over to the mic, just as a few have already done this morning, stating, if you will, your name, your organization or your company, and then what do you think about the idea that has been presented. Now, one of the things that we must all keep in mind is that this is

just a broad brush. This isn't down to the details. This is just a very broad brush of each one of these ideas. And the things that I'd like for you to think about, we also heard John mention them this morning. Which of these ideas makes some sense to us here in Metro Orlando. Which of these ideas seem more important possibly than others. And what ideas seem less important to you. What do you have to say about each one of the ideas. And, as you look down your survey sheet, you have a listing of all 10 of those ideas, you may look and say, this is where my passion is and I want to discuss this. And that's exactly what we hope that you will do. So as she presents each idea, if that's one that you do want to make a comment on, I ask that you move out of your seat, across the aisle. We know we have to kind of sort of climb all over one another in order to get over there, but there is a purpose, because we want to capture not only your name, your company or organization, but we also want to make sure that we capture that in written format as well. So it is important that you step over to the mic and you speak clearly, if you will, and I will always say to my clients as we are presenting any idea, be clear, concise, and compelling. And because as we know we've only got a short period of time and we will allot one

minute to each individual. I'm going to be assisted by Adam. Raise your hand, Adam. And when I give Adam this little sign, he's going to tell you, thank you very much. And if you'll finish your sentence, we'll appreciate that. You'll get used to him saying that. Pretty soon, we won't even have to do it. As we finish that last five minutes, you will hear this sound. That will be the end of that idea. She will present the next idea, and we'll go through, because we may -- I may look up and I've got half the room over there standing in line. We'll know that we won't get to everyone; however, we have two additional ways to capture your information. The second is, as we finish with all 10, if we still have additional time before the open forum, I'll go back and identify the questions that I noticed -- or the ideas, rather, where individuals were still standing and did not have the opportunity to speak. So I'll go back and pick those up and allow those individuals that chance to speak. Always remember that on the backside of that survey, which we'll ask you to complete and hand in before you leave, plenty of white space. So just identify a number and then write down whatever your additional thoughts or concerns are, and we would greatly appreciate that. We'll be collecting those, they will be compiled and tabulated.

So as we get started, I'm going to turn the microphone over to Marielle, and she will take you to the first idea.

MS. GRANJEAN: Thank you. Before I start, I just would like to talk about the context of this. As you understand, despite a gloomy economic climate, clean technologies still offer a sense of optimism. It is an industry that represents one of the fastest growing opportunities for job and wealth creation. How can we make Metro Orlando a Cleantech leader.

As the Cleantech industry is evolving, many federal, state and local policies are still at the early stage of formation or implementation. Others are still under consideration. It is an ongoing process. Countries, regions, and cities all over the world are embracing the growth and development opportunities offered by clean technologies. But only those that embrace progressive policies to speed the transition process will be true leaders and winners in this race.

Once the Cleantech symposium series are over and the Cleantech study reports comes out, local leaders will need to embark into new initiatives to strengthen Metro Orlando's position in Cleantech. Many factors can contribute to the success of an Orlando Cleantech cluster, like leadership, vision, creating the right

image, and policy implementation. However, public policies will play the most vital role. It is in that context that we're going to offer 10 ideas, discuss them to see how we can grow clean technology in Metro Orlando.

First idea. At least 20 percent of Florida's electrical power from renewable energy sources by 2020. In hopes of slowing global warming and creating green collar jobs, states are setting ambitious goals for generating power from renewable energy. Solar, biomass, wind and other renewable sources.

One of the most policy trends in clean technology in the U.S. has been the statewide renewable portfolio standards. What we call RPS, the statewide Renewable Portfolio Standards. Most cities and regions that are considered Cleantech leaders are located in states that require a specific percentage of their state's electricity to be generated by renewable energy sources by a target year.

In 2007, Governor Christ proposed a goal of generating 20 percent of Florida's electric power from renewable energy by 2020. On January 9, the Florida Public Service Commission adopted this goal and now it's on the way to the legislature. If this goal becomes law, consumers could be charged up to 3 percent more in

order to jumpstart the market for clean technologies.

Some RPS targets are even more ambitious. For instance, in California, Governor Schwarzenegger has proposed a goal of 33 percent by 2020, up from the existing 20 percent by 2010. New York Governor Patterson is proposing a goal of 30 percent by 2013. But large or small, RPS means demand for providers of clean energy technology and services. So overall, RPS are good for the community. The benefits include greenhouse gas reductions, job creation, energy security, and cleaner air.

The study done by the Florida Public Service Commission shows that utilities could get up to 27 percent of their power from renewables by 2020 under the best circumstances, but only 6 percent in the worst case scenario. The midrange estimate is under 15 percent.

With an RPS loss, my question to you is the following: Will renewable energy use laws speed up the reduction of clean technologies in Florida or will market be the determining factor. How much should we count on a renewable energy law to help grow Cleantech in Metro Orlando. Thank you.

MS. BITTMAN NEVILLE: So we have heard again about our first idea, and the question is, will a renewable energy law speed up the adoption of clean technologies

in Florida, or will market forces be the determining factor. How much should we count on a renewable energy law to help grow Cleantech in the Metro Orlando area. Anyone wish to comment or answer that question, please step over to the mic.

MR. TELLAM: I'm Mark Tellam. I just have a couple comments. One is that I think you have to codify these things and you have to do it in a way that the laws aren't reversed so that businesses know what kind of environment they're dealing with and they can plan for these things and their business strategies. The second thing is that we're already paying, as far as I know, as citizens, a credit into our electric bills to pay for insurance for future plans for the power plants. So it seems like we also ought to be able to underwrite truly renewable energy in a similar way. The third thing is, and I think the most important thing, is I think we should start with the City of Orlando and Orange County as opposed to the State of Florida because we can see what's going on locally and we can have a much stronger impact locally than getting behind kind of a diffused flurry, feel good policy at the state level. OUC would be a good start.

MS. BITTMAN NEVILLE: Thank you.

MR. WATTLES: Shawn Wattles with Mitsubishi Power

Systems. Piggybacking on what the gentleman just added, starting at a local level I think would be a more direct approach and probably have a more vital impact. Implementing statewide standards with such a broad brush can have adverse impacts in certain areas and, you know, the law of unintended consequences can come into play here. I also believe this needs to be looked at from the standpoint of a balanced energy portfolio, which would include current resources, nuclear, clean coal, natural gas, et cetera. So setting out a goal of just 20 percent and just calling it a black and white make it or don't make it can have negative impacts in the long run, too.

MS. BITTMAN NEVILLE: Thank you.

MR. BRUDERLY: Dave Bruderly, consulting engineer from Florida. I can see we have a spirited debate on the definition of market forces. The roll of government according to Adam Smith, who wrote the Creation of Nations and is considered to be the godfather of free market capitalism, defines the role of government. The role of government is to set policy to serve the public interest, to serve and protect the commons, and in my judgment eliminate pollution is a government policy position that is supported by the vast majority of the citizens of the state of Florida. The Chamber of

Commerce even took a poll, which they did not release to the public, but they found that 70 percent of the respondents to that poll, this is the Florida Chamber, said that they felt the climate change was an issue that needed to be addressed. Unfortunately, most of those folks did not think that they should pay more to address that problem for energy. So what we have here is a challenge for government policy makers to get the policy right. We have to serve the public interest. The public benefit is reducing pollution in the most efficient way possible, and the most efficient way to do that is for policy to clearly define that objective so people when they make purchasing decisions can understand what it is they are buying. So a renewable portfolio standard is a policy tool that moves in that direction but it needs to be implemented in ways so that the consumer really understands the carbon footprint that they're buying everytime they buy a gallon of gasoline or a kilowatt hour of electricity or any other form of product that consumes and uses those kinds of energy for its production.

MR. PIERCE: Cary Pierce. Lake County Economic Growth and Redevelopment. When I looked at this and then some of the other items on the sheet and you were asking whether it should be from the government or from

the market forces, I go back to an old saying I heard awhile ago. Any accomplishment not a result of a goal is an accident. So with that being the case, if there is no one single entity saying that we need to reach this goal, if we reach it, it will be an accident. It will not be the direct result of someone setting that goal. So I totally believe there needs to be a goal set. Setting a goal does not mean that you set the path to achieve that goal. That's what all these other initiatives are out there. That's what the market does, they achieve the goal, but someone needs to set the goal.

MS. BITTMAN NEVILLE: Thank you. We have time for one more.

MR. LAROE: I'll try to be brief. Ken LaRoe, CEO of First Green Bank. I think that we need to do this at the state level. If there is an embellishment at the local level, that's all the better. I think the goal of 20 percent by 2020 needs to be simple, needs to be measurable, needs to be direct. Like Cary just said, that all of the policy implications will flow down from that. We need mandates. The -- as all of the stuff that's happened in the financial industry in the last couple of years has shown, the market will not self regulate despite what people want to think, and we need

mandates and this needs to be put in place immediately.

MS. BITTMAN NEVILLE: Thank you.

MS. GRANJEAN: Second idea. The creation of a Florida clean energy fund. Public benefits funds was something mentioned during the last symposium by Dr. Fenton. Most of the states now have public benefit funds dedicated to energy efficiency and renewable energy projects. Many states have determined that for any idea to be successful, they have to be accompanied by a clean energy fund. For instance, the Connecticut clean energy fund created in 2000 by state legislature issued more than $100 million in grants to businesses, including hospitals and plants, that installed and generated technology on their sites. The study by the Owens Berkeley National Laboratory and the Clean Energy State Alliance estimated that out of 3.5 billion dollars will be invested by public benefit funds and clean energy businesses between 1998 and 2012. At least 15 U.S. states have publicly energy investment funds investing billions of dollars into early stage companies and Cleantech project findings.

The clean energy fund has been proposed by the Florida Renewable Energy Association. It is a nonprofit organization that is dedicated to expanding the use of clean renewable energy technologies. The Florida Solar

Energy Center is represented on this board of directors. Under the proposal, an assessment will be made on the electrical usage of each customer to record to about 60 cents for the month for the average electrical customer. This money will be dedicated to spur investment in renewable energy in Cleantech. The department within the Florida Office of Energy and Climate Change would administer the fund. And based on Florida's 2006 total energy consumption, it is estimated that this fund will amount to about 114 million dollars a year. Uses of the energy fund will range from educating Floridians on energy efficiency to providing financial incentive for solar manufacturing companies that establish factories in Florida.

So what do you think of this idea? How important is it to establish a Florida clean energy fund? Is this an achievable goal in the current economic environment?

MS. BITTMAN NEVILLE: Thank you. So, again, if you would like to comment on this particular idea, idea No. 2, clean energy fund. The question is, of course, what do you think. We are very interested in getting your comments. How important do you feel that it is to establish a Florida Clean Energy Fund and do we think that it is actually achievable in this economic market. Any comments, please step to the microphone.

MS. CHADWICK: Well, as was brought up already -- I'm sorry, Kirstie Chadwick with the UCF Venture Lab, and as Carol Ann and I mentioned previously, the -- my concern here is that 114 million, when you're dealing with larger corporate incentives, is actually not a large number, but it's a very large number if you're willing to dedicate a fair amount of that fund towards that innovation. And so to John's definition of Cleantech, if you're talking about innovation -- the innovation part of it, because we're so lacking in that GAP funding in that early stage, part of the -- you know, the economic development, I think this is a good idea if you can better define, you know, what percentage of that would go to early stage versus, you know, manufacturing and some of the ideas you brought up. And I do think it's achievable based on taxes of energy bills and stuff like that, of which other states -- there's plenty of models out there to follow.

MS. BITTMAN NEVILLE: Thank you.

MR. BRUDERLY: Dave Bruderly, again. I will point out that the City Commission basically voted to do this, in effect, tax the utility customers a very small amount, about 1 percent, to pay for a very specific targeted program, which is putting solar panels on the rooftops in Gainesville. Original utility service area.

The idea of a statewide fund is long overdue. Many of us who have been active in this industry have had to go to California and other places or the federal government seeking funding just for research and development, let alone commercialization. There is effectively no money available for commercialization in the state of Florida. It's accessible to small businesses and entrepreneurs. A lot of the grant funding the state has put out has gone to big blue chip companies to support technologies which are worthy, but small businesses have a hard time competing for that. So I strongly support this initiative. The only condition I would make to it is that the award of the money really needs to be tied to a performance criteria, something that's tangible. Like with a goal towards zero carbon emissions. In other words, the technology should move towards a carbon footprint that is as low as it can possibly be taken under the technologies that are available. And that zero footprint is achievable.

MS. BITTMAN NEVILLE: Thank you.

MR. TELLAM: Mark Tellam again. Central Florida Manufacturing Central Partnership. The State already has a fund set up through the Sidowski Work Force Housing Act that impacts affordable housing, and if you were to look at a life cycle cost analysis for materials

that go into work force housing or affordable housing, and if you were to look at the total cost of ownership of such housing, you know, that could be a good start for developing some regulations at the state and local level. The local governments pull down those funds. For instance, the City of Orlando pulls down those funds for affordable housing stipends for citizens already. So I think that would be a good start because that money would be available to all the businesses locally who are building homes, which are the single biggest source for energy consumption.

MS. BITTMAN NEVILLE: Thank you.

Anyone else wish to comment on our second idea?

All right.

MS. GRANJEAN: Third idea. This idea comes from San Diego. Creation of a Cleantech challenge grant program. San Diego has already awarded three grants under this program. Its purpose would be to accelerate the commercialization of environmentally friendly technologies from academia to the private sector. It is a joint effort of the City of San Diego, the University of California, San Diego, and the San Diego EDC and other partners, such as Qualcom. Under this program, there's a competition for Sid grants of up to $50,000 for proof of concept and prototype construction.

Winners also receive business mentoring services similar to those we have here at the UCF technology incubator and venture lab.

The first three grants were awarded last October. One, as an example, was to an engineering professor for a project to increase the efficiency of electricity generating PV panels by using quantum wells and wave guides to concentrate solar energy. For those of you who do not understand this, I am sure you will agree that at least it sounds very important. Our guest this morning, Mr. Chirazi, who represents the City of San Diego in this program, says this program is very important because angel and VC funds is not available at the early stage of start up companies. Here, we will need about from 150,000 to $500,000 a year to establish a Cleantech challenge program. A modest amount of money compared with other ideas for promoting the growth of Cleantech in our community.

So how important do you think this idea is to encouraging and growing Cleantech in Metro Orlando?

MS. BITTMAN NEVILLE: Now, I would definitely say we have some individuals who would like to make comment on idea No. 3. So how important is this idea to encourage and grow Cleantech in Metro Orlando? If you would please step over to the mic and let us hear your

comments.

MR. TELLAM: Some quick thoughts on this. First of all, the Florida High Tech Corridor Council, which is USF, UCF and UF, has a matching grant program that's funded by the State. The funds are intended to be poled by a business partnership where a business comes into the university and collaborates with the faculty and graduate students to get a project done. And in the weighing of those grants, when the community reviews the proposals, they could skew that towards renewable energy just by incorporating a point system that takes that into account. The most important thing is that it's poled by business rather than initiated by IP that's developed by faculty. If you look at the University of Florida, what they're doing is they're taking money from the research foundation there in Gainesville and building proof of concept devices related to IP, and then they're embedding the cost of those proof of concept devices into licensing arrangements where companies pick that up and then pay the foundation back those funds. So, you know, that would be something that's already in place that could be strengthened again to accelerate the process.

MR. LEWIS: So because of that, Mark, would you rate that goal of a higher importance or a lower

importance?

MR. TELLAM: I rated -- I didn't pick this up in my two choices de jour, but I think that grants are important. Actually, over at Moffett, there was a guy -- I think it was David Hale from San Diego -- who was talking a little bit about the medical incubators out there having to do some things and he identified grants -- it wasn't in his Powerpoint presentation, but he identified grants as particularly important in these economic times, John, because the banks aren't loaning any money right now. We really need to look at grants. And I would advocate for existing grants because the state is also cutting back budgets right now. They just hit UCF very hard this week with a budget cut, but --

MS. BITTMAN NEVILLE: So, I think, John, I heard the answer to that was, yes, right?

Thank you.

MS. CHADWICK: As always, of course, funding is good, especially for early stage, but in this particular case, I'm going to rearticulate the concerns I have on the dollar amounts we're talking about being so small. So if I had to choose, I would choose the previous one over this one because of the amount of funding that could go into the -- you know, the early stage projects. To Mark's point, there's already a lot of projects going

on in the state and the region. And, again, many of them are at risk because of the budget cuts, so with the caveat that some of them may go away, that's based on some of the dynamics going on in the economy right now, but at least in the past the State has done and the region has done a good job of providing incentives and programs, you know, at the level of what these are already. So I'd rather, you know, folks focus on, gee, what happens after they win that 55 to 100K kind of a grant because there is also SBIR funding, which comes from the federal government, but there's a lot of focus on that here in our region as a source of funding for these early stage companies as well. So I am actually going to suggest we defer this and go for maybe a little bit bigger fund.

Carol Ann's nodding. That's good.

MR. BRUDERLY: Dave Bruderly. One aspect on this that has troubled me is that there are a lot of opportunities out there for achieving green technology that are not proprietary. There is no intellectual property. It's just practices that are readily available. I'll use the example of natural gas vehicles. Off the shelf technology, cheap, efficient, affordable, but not in common usage because there is no culture to support gaseous fuels in motor vehicles in

the state of Florida. There is no driver from a clean air stand point because our air's clean because all the pollution's blown out into the ocean everyday, and unlike California, we don't have mountains to hold it in. So there are green opportunities like that that are not -- do not depend on breakthroughs in technology, therefore, it's very difficult to get proof of concept demonstration money in the environment that we have in the state today.

So, again, performance -- award of any funds needs to be tied to actually performance that achieves public policy goals. And we don't just want to socialize the risk just to privatize the profit. And that's part of the danger of what you're talking about here is we are socializing the risk of making investments, and unless there's a clear public policy goal, you don't want to -- you just don't want to go out and tie that to some intellectual property that somebody else can own and control and will make a whole lot of money with an up front subsidy that doesn't have a clear public purpose. And also you want to make sure that you don't overlook something that's low hanging proof that could be easily implemented, no property involved, no intellectual property involved, but still a very high return on that investment from a public policy perspective.

MS. BITTMAN NEVILLE: Thank you. And, of course, we heard the comment being made about, you know, where do we find that funding, that gap, and if anybody has any comment on that, we'd like for you to step over to the microphone as well. Where do we find some additional grants or any other ideas for funding, which I think is one of the major questions, right?

MR. TELLAM: John, what I put down was strengthening the enterprise season here in Orange County is probably the No. 1 grant that we could afford small businesses because it would minimize or eliminate overhead, and we can do that with county and city resources, without asking for cash, I think.

MS. BITTMAN NEVILLE: Good. Thank you. Anyone else?

MS. GRANJEAN: Our fourth idea. Green collar job training programs. As you understand, new technologies require new skills. Energy efficiency and renewable energy industries will not succeed without qualified and trained people who can do the job. We need green workers to install millions of solar panels, to implement alternative energy plans, make buildings more energy efficient and maintain and repair hybrid vehicles.

There are plenty of training programs throughout

the country. For instance, in solar technology, we have Austin Community College, New Mexico. Here in Central Florida, we know that the solar energy center offers some courses, but we're not sure they are for here. In wind energy, there are courses offered in two places, Iowa and Wisconsin. In green construction, there's a community college that offers an online program, and the green building certification institute is also offering classes online, and the fuel cell technology, the Texas State Technical College in Waco, Texas is offering a very interesting program.

But to make real progress on economic and work force development opportunities, we need to focus more carefully on Cleantech energy sectors. We know that the energy efficiency sector is -- can be the fastest and the cheapest way to address global warming, reduce energy costs and sustain good jobs. Most jobs look like traditional construction jobs; however, most opportunities are available in retrofits, green building and green manufacturing. The Regional Economic Development Institute at the Los Angeles Trade-Technical College identifies several emerging middle-skill occupations among green construction jobs with the highest employment potential. They range from energy and indoor air quality auditor to HVAC operation and

maintenance technicians to solar installer and technicians.

The wind sector is also important because of its rapid and high profile growth in the U.S. and abroad. Its potential in economic driver, its capacity for job creation, and manufacturing. Jobs in the wind sector are comparable to those in the traditional manufacturing. But component part manufacturing for wind turbines holds particular promise. The Minnesota West Community and Technical College found that employers wanted graduates of three related tracks: Wind energy technicians, wind energy mechanics, and windsmith. So the following key principals have been identified as important in the process.

First, we need to target specific sectors. We need to use good data to drive green job initiatives, we need to identify the existing training in education programs, and we also need to identify and fund the leading programs that are not in existence. We also need to use energy standards as green job creation tools. We need to pull more green industry clusters and develop Cleantech partnerships with schools. We also need to save the existing jobs and create new ones through green innovation.

So is this idea an important one to pursue, or

should we let these training programs evolve in due time.

MS. BITTMAN NEVILLE:: You know, one of the things that we heard this morning was talk, of course, about all of these initiatives, the things that are being done in San Diego, but where do we have the training. And, you know, the question that was posed to you, and I would just like to expand on that, is, one, is this an important idea, to pursue the training aspects, or should we just let the training programs evolve. My question would be, I know we've got a number of the University of Central Florida individuals here who may be able to speak on this and a number of maybe other entities as well. You know, should our schools begin to look at offering or beginning to develop a curriculum for this type of training. And so if you do have a comment on that, what are some ideas to really make this happen? Who should we bring to the table to begin developing the training, if, indeed, this is going to be a strong initiative for our Metro Orlando area. So I would invite you to step to the microphone and share your thoughts.

Or I'll call on you.

MR. SNAITH: As a professor, I felt some duty to step up.

MS. BITTMAN NEVILLE: I thought so. I was looking at you, but --

MR. SNAITH: I think it's important. There is a little chicken/egg problem, I think, with these programs. You know, partnerships between higher education and industry here, I think, is very evident when we're speaking about Entertainment Arts, EA, here in town, maker of video games, and how they are having problems with work force issues and how the interactive academy at UCF's creating a village concept sort of evolved to keep them here and allow them to expand. So, you know, we may want to look at existing companies that are already here in Cleantech and see if their needs are being met in terms of work force skills, and then, you know, have that guide the programs, whether it's at UCF or any of our community college partners or technical schools. So I think that's a discussion that should be held. You know, it should be a relatively low cost thing because presumably we're going to provide a product that has a market, that's in demand. So, you know, in my opinion I'd rank it up there just because we can still Cleantech without laying out a whole bunch of money or legislature.

MS. BITTMAN NEVILLE: Others that would like to comment, if you will step to the mic.

MR. BRUDERLY: Dave Bruderly. I feel like I'm wearing out my welcome here, but --

MS. BITTMAN NEVILLE: You should sit a little closer. Just kidding.

MR. BRUDERLY: I have to use an example of about 10 years ago, there was a move away from liquid petroleum fuels in the automotive sector to go to gaseous fuels, natural gas, hydrogen, and here in Florida, what happened was that, because we didn't develop culture to go to these low carbon cleaner fuels, when there was a brief disruption in the marketplace due to extremely low price of petroleum in 1999, 2000, 2001 and a blip in the price of natural gas, the people who had stuck their necks out and bought natural gas buses and vehicles, such as Lynx and I believe Orange County government and who had installed refueling infrastructure for natural gas vehicles found that the only support contractor in the state motor fuelers went out of business. And when that one company went away, there was nobody left in the entire state of Florida to service compressors, gas compressors, a very basic fundamental technology. Not high -- it's high tech, but that went away, and as soon as it became more difficult to find a service provider, the companies that had like Orange County and Broward County and others who had made investments in trying

this cleaner, safer, more efficient motor fuel gave up, and they just let that machinery decay and did not maintain it. And the reason for that was that they didn't have mechanics on their own automotive staff. They had many, many, many mechanics who could take care of gasoline or diesel powered equipment, but they had nobody who was really aware of how do you deal with a high pressure gas in that environment. So there was a failure here on the training side to fully educate automotive mechanics on this technology. This is relevant today because what we're seeing today is a -- I was in a meeting yesterday with T-Bone Pickens and Mike Jackson, who's a CEO of automation. There is a massive change happening in the auto industry throughout the world. We just put two million dollars here in the United States into advanced battery technologies to try to develop the lithium ion battery and the all electric car. There's discussions again about hydrogen and natural gas and what the policy should be to incend, but the bottom line is change is coming and our automotive mechanics in the State of Florida are not ready for that change. There needs to be education. And how do you deal with battery electric vehicles, how do you deal with high pressure gases. In addition to this, how do you take care of the good old garden variety diesel

engines. If we don't educate these folks now, they're not going to be ready for whatever comes out of the laboratories tomorrow. And I'm not talking 10 years from now, I'm talking literally tomorrow.

MS. BITTMAN NEVILLE: Thank you. Anyone else wish to comment on the training?

Please.

MR. DOWNING: I'm Jim Downing with Bishops (sic.) Florida. We've had such a parade of experts, I thought it was time the uninformed and ignorant come up. We've been discussing, it seems to me, whether and how we should implement Cleantech, and then how do we finance it, and this to me sort of came out of left field because it's almost sort of hinting at if we just had the trained work force, then we could implement Cleantech and then we could fund it. And it seems to me that this is at the tail end of that cycle, and the public institutions here in town, Valencia, Seminole and UCF, in my view, have been very responsive to market trends in terms of the courses they're offering, and then the for profit schools that pop up for this kind of training will be right there, it seems to me, once we figure out whether and how to implement and how to finance those companies. So I rated this relatively low. And the fact that there are UCF people here, I

don't know if there's Valencia or Seminole people here, they'll figure it out. When the companies -- when the demand is there for these jobs, then I think it'll be easy enough to train this work force.

MS. BITTMAN NEVILLE: Thank you.

MS. CHADWICK: I'm back. I just wanted to kind of dig down a little bit to what Jim was hinting at. A couple things. First of all, I don't know about wind in Florida, so just take a tactical real quick that you focus on solar mainly in your slides, and that's probably a nit, but, nonetheless, you know, the first thing to do is to figure out what we're going to be doing in Florida, and, of course, building and solar and what not might be a little more, you know, tactical for us to focus on. But that's, you know, without having really researched the problem.

But then the other thing, too, kind of articulating a little further what Jim was saying, the jobs won't necessarily be there unless the incentives are put in place to create the jobs. So I do agree that this is a lower priority, not because I don't think we need to have this trained work force, but because you don't want to spend dollars training folks if the incentives aren't in place to create the solar installations, because those -- you can look at all the regions in the world

where solar has been adopted. And I would look at Germany, because Germany started out with, you know, very significant incentive programs and subsidies to encourage people to do those installations, which, of course, created jobs which required the training, but they are just now weaning off that. So the market did actually begin to bear itself out, but it took years. So without those incentives, these jobs won't be created. So I think we need to put the cart before the horse.

MS. BITTMAN NEVILLE: Good. Thank you.

MR. WATTLES: Another version of that, having been involved with some work force development issues, specifically surrounding stem and a couple other industry initiatives more on the nuclear side, there's different approaches to the marketplace training. One is a push, one is a pull. And when we begin to try and push people into this training when the market isn't ready to accept it, we're really pushing people into, you know, an area where there's going to be adequate jobs to support that training. When we allow the market to develop and have a process where they can pull, meaning we have implemented measures that will incent an institution or the public for-profit colleges to open their doors for the type of program, they're ready to do

that when the market is ready to pull those people into the industry. So kind of a different mentality or different approach there, but we've seen a lot more success in that pull type of approach. So when the market's ready, the training can open up and people can go in that direction.

MS. BITTMAN NEVILLE: Good. Thank you. We certainly had some difference of opinions on that and that's what we certainly like to see. So we'll move now to idea No. 5.

MS. GRANJEAN: The fifth idea. Hiring or designating a Cleantech program manager. In 2007, Mayor Jerry Sanders from the City of San Diego hired the Cleantech program manager, Jacques Chirazi, whom we are glad to welcome here today. His responsibilities were forming and promoting collaboration within government agencies in the Cleantech sector as well as advising the Mayor in the development of the San Diego clean technologies advisory council. Okay. The local government could hire a Cleantech program manager with the overall responsibility to promote the development of a Cleantech cluster in Orlando. The Cleantech program manager could also help establish the following: The Cleantech advisory council, made from government, business, academia and non-profit organizations and its

mission would be to develop a clear Cleantech strategy, attract businesses in Metro Orlando, and create jobs. It could also help establish a clean team for high value Cleantech companies similar to the current miracle team that we have in Orange County for high value projects. So the clean team's mission would be to seek and support Cleantech businesses in Metro Orlando. We could bring together services of the UCF technology incubator, the venture lab, the advisory board council program and other programs for a year or two of concerted effort to assist such companies. For example, with start up space, market research, and the customer networking center.

Other cities have been taking similar initiatives. For instance, in the City of Austin, Texas, with City funding, the chamber of commerce even hired a full time director of economic development, Laura Valentine, with a specific task: To seek and support clean energy companies. This initiative paid off since Austin was named last year the No. 1 Cleantech city in 2007. In 2005, San Francisco's Mayor, Gavin Newsom, established a 16 member council whose mission was to promote and create the City's Cleantech agenda, bring Cleantech businesses to San Francisco, and create job opportunities in high skill industries, and they have

seen great results.

So what do you think? Could such initiatives help promote Cleantech growth here in Metro Orlando and create jobs and wealth?

MS. BITTMAN NEVILLE: So as you hear our idea No. 5, and, of course, I believe we've got representation from a number of the organizations and groups that were mentioned. Of course, we have government, business, our members of academia, and some specifically mentioned the UCF technology incubator, the venture lab, the advisory board council program and others. So for those of you who were named, what do you feel of this initiative of creating this Cleantech program manager that would help to initiate some of the goals and objectives. So we'd love to hear your thoughts, if you would, please, again, step over to the microphone, announce your name and your company and share with us your thoughts and ideas.

MR. LEWIS: Sort of a Jacques Chirazi clone.

MS. BITTMAN NEVILLE: We could try that.

Any ideas on creating such a position as we have heard of Jacques' position in San Diego? Anybody want to apply for the position? We have applications.

Here's one coming now. All right. Good.

MR. PIERCE: Cary Pierce, Lake County Economic Growth Redevelopment. I think the program manager would

be a nice position to have, but as Jacques had told in his presentation, the one thing a program manager would need would be the tools to complete the task. Without incentives, without a coordinated effort, if you're doing this in Metro Orlando, you now have to go through Metro EDC, through their vehicle. It would be something implemented through their organization where you've got buy-ins from all the different counties, financial buy-ins, incentive buy-ins to do that. You've got Enterprise Florida, which is already existing in the high tech corridor. All these different entities, you would have to have a definitely coordinated effort just to create the program and to create the incentives for that individual to accomplish that task. So without there being any of those things available from an initiative standpoint, the tools to go out there and recruit these businesses, to foster those businesses, to allow them to grow, especially during a cluster type situation, where you're doing your cluster analysis on where these businesses are currently located, where they're going to be located, where your verticals or horizontals currently exist or are going to exist, it's a huge, huge task to get that kind of orchestrated. From a Metro Orlando perspective, that makes it even that much more challenging. It would be easier to do it

from a local City of Orlando type aspect. But then you're going to sacrifice the type of technologies you can have because of the limited resources that are available within a city as opposed to a Metro format.

MS. BITTMAN NEVILLE: So we certainly hear you saying leverage all of the geographic areas to create some synergies?

MR. PIERCE: Absolutely. Use the assets that you have available. You would have to. There would be companies, biotech type of companies doing biodiesel fuels who would not want to be located right in downtown Orlando. They have no advantage to being in downtown Orlando. They would much rather go to a low cost area where they can have higher land use, where they can have larger land use. When you get to the reverse, if you're looking at Cleantech where it's really from a -- when you're looking at plastics and you're looking at polymers, you're looking at Blue Earth, the company Blue Earth Solutions taking Styrofoam, processing it into small little plastic pieces, that whole process they're doing is completely nontoxic. It's earth friendly in the name, but they are going to be the most remote. They don't need high cost. They don't need anything fancy. They just need the brick. That's all they need, and the space. So that's where you would want to

leverage what you have available outside of Metro Orlando. But, again, if there's not incentives from a Metro Orlando standpoint, then the entity doesn't work.

MS. BITTMAN NEVILLE: Thank you.

MR. BRUDERLY: Dave Bruderly, consultant, Gainesville, speaking to the question do you need a program manager, and the answer is, absolutely, yes. I will quote T-Bone Pickens and Mike Jackson who appeared yesterday at Nova Southeast University and Navy, and T-Bone basically said that a fool with a good plan in business can defeat a genius with no plan. We have a lot of geniuses in the state of Florida trying to come up with a lot of really creative good ideas to solve this problem, but we do not have a comprehensive statewide energy plan. So if you don't have a statewide plan or a national plan, then you've got to think globally and act locally. If Orlando wants to prosper in a carbon constrained economy, in a carbon constrained world, which is what the Governor is telling us he wants to see us do, then we have to act locally until the rest of the state, the rest of the nation, the rest of the planet catches up to us. So, yes, we need a program manager to develop the plan.

MS. BITTMAN NEVILLE: All right. Any debate on that?

All right. Let's move to our next idea.

MS. GRANJEAN: Item No. 6. The creation of a clean energy incubator using UCF technology incubator.

Cleantech incubation has become a hot topic as many cities are competing to lead in combining Cleantech investment infrastructure and supported policies in a physical cluster. According to the National Alliance of Clean Energy Business Incubators, 78 U.S. early stage firms and 11 incubators commercialized 52 clean energy technologies from 2002 to 2005. According to Sustainlane, the following cities were leading for Cleantech incubators in 2007.

Austin, Texas. Austin's clean energy incubator was created with the Austin technology incubator in 2001 at the University of Texas, Austin. With seven companies involved in incubating everything from Internet controlled irrigation to wind and geothermal energy technologies, the group works closely with city-owned utility Austin Energy, according to the assistant director Kurt Faulhaber.

San Jose, California. San Jose has been able to attract a lot of venture capital funding alongside new Web 2.0 start ups. With long-time leadership in engineering know-how, combined with semi-conductor, nano technologies and optics research and development, San

Jose has had the edge in renewable energy development particularly in solar energy applications.

Berkeley, California. The center for biofuels and energy research, the Energy Biosciences Institute, was co-located at the University of California-Berkeley and the University of Illinois at Urbana-Champaign in January, 2006. Funded mostly by BP and partially by the State of California, the Institute will also be managed by the federal Lawrence Berkeley Laboratory, also located in Berkeley.

I'm not going to talk much about Pasedona, but they were in the forefront in greater Boston, Massachusetts. Okay. This state has been the most supportive in terms of state policies in the nation for renewable energies and energy efficiency. It also leads in Cleantech venture capital investment after California. Among other sources of start ups, they draw from Cambridge, home of MIT's Ignite Clean Energy Competition. It was MIT grads who founded from research in MIT labs the two leading advanced lithium ion battery companies, the Boston area's A123 system and the Lilliputian Systems. So as runner ups, in fifth position was San Francisco, New York, Seattle, San Diego and Houston.

So creating a clean energy incubator within the UCF technology incubator would provide Metro Orlando start

up companies with the testing and technology expertise that they would need to succeed. The ideal model for Cleantech incubation includes a start up or advanced stage venture capital and investor network access, including mentoring and coaching. Academic or federal research lab collaboration, active state and local government participation for field testing, pilot programs and incentives.

So what do you think of this idea? Would a Cleantech incubator within the business incubator give Metro Orlando an advantage in achieving a Cleantech cluster?

MS. BITTMAN NEVILLE: I believe that one must bring music to your ears, or eyes, I guess that is, right?

MS. DYKES: Maybe not quite so much as you think because the reality is the UCF business incubation network, which is composed of a number of different facilities, but in particular the technology incubator component of the program, which is all based in Research Park, there is -- there is not anything that would be centralized in the Cleantech incubator, per se, that we don't already have. And, in fact, the value of having a broader technology based incubation program such as UCF already has, we're going into year No. 10 of the program here, actually is because of some of what we've talked

about this morning. The reality is that Cleantech is a convergence and leveraging of a whole array of different technologies. Some were are listed up there. Same ones that we already have within the technology incubator client company base and graduate base. Optics, bio, semiconductors, electronics, advanced materials, nano technology. So while having a section of our facilities that was dedicated to perhaps specialized equipment with lab facilities where companies could share equipment, which is a common practice in many incubators, not ours because of the capital equipment cost, there would be some value in that. But I would -- because we have such a strong incubation program already in this community, in Central Florida in general, I would not necessarily be a strong advocate of a facility that's focused only on Cleantech. The reality is it would end up being an incubator facility with an array of different kinds of companies that were bringing different technologies in there. And that's very much what we already have. We already have a very strong mentoring program, access to capital. We already do angels, VC's. They come visit us all the time anyway. So we already have all these components. So it's an expansion of our resources to provide all this. I think really what we need is continued support from our great partners like Orange

County.

MS. BITTMAN NEVILLE: Thank you, Carol Ann.

MS. CHADWICK: I agree with Carol Ann a hundred percent. I think -- and I'm glad she articulated that. I was a little worried about not agreeing and having a debate in real time on TV, but luckily we're all on the same page on that. But what I wanted to, you know, articulate for the purposes of what you're trying to accomplish here is clarification of the definition of an incubator, because I think Carol Ann would probably concur that that word now is a buzz word at, you know, a national level on economic development, early stage kind of stuff, and yet what you described up there is, you know, what other folks are doing in other regions really is more university R&D kind of centric. If you look at every one of those I think that you had on your list was related to a university, as are we, but in this case I think Carol Ann will articulate that the criteria they have for entrepreneurs coming into their incubator, it's an established company already, versus R&D efforts, which we do have one incubator in Creole out at UCF, that Gordon runs. He's back there as well. He's right behind me and he can talk about that. That's probably more in line with what I think you're trying to articulate here. So I would pay attention to the fact

that FSEC already exists, and there are already, you know, research centers, not just at UCF, but throughout the state that are already addressing and overlapping with what you've put on up on that slide. So maybe just double check your definition and then do some digging into what already exists before future dollars are allocated to these sorts of things.

MS. BITTMAN NEVILLE: Thank you.

MR. HOGAN: Gordon Hogan. I'm with the UCF business incubation program. I'm going to take a little different approach here, because I think if you want to emphasize something, it's a good idea to set aside a special facility and a special program to promote that particular effort, whatever it might be, and I think a Cleantech emphasis would help emphasize that. If you remember the chart that Jacques used in his presentation, the money that's required to take it through the various stages is an interesting thing that you have to look at, and we at the photonics incubator, we have adequate funding to do proof of concept work through SBIR's and STTR's and other grants, and with the Florida high tech corridor council matching funds, we have the money there to develop that. But at some point that technology is going to be ready for outside money, and that's where we get into trouble here. And it's

been mentioned already, but I have to emphasize it again that we've put the money into the economic development process, but what happens is we sometimes lose the benefit of having put that money in there because it moves through another location to find venture capital when the attention is needed to support the effort. So I think I kind of like the idea of a Cleantech incubator.

MS. BITTMAN NEVILLE: All right. Thank you, Gordon. Please.

MR. ROSS: Good morning. Mike Ross with Creative Technologies. I'm one of the dogs in the hunt here because I'm an incubator client currently out at the --

MS. BITTMAN NEVILLE: Say that again.

MR. ROSS: I'm an incubator client. So I really can testify to the value of incubation concept and funding and even branding. I would reinforce Carol Ann's message in that, what I found -- I've only been there five, maybe going on six months -- is that the blend of companies in high tech gain value by being close to each other and sharing a lot of resources, you get a lot more value as a client. And I'm in communications technology, and I'm surrounded by IT and bio and a variety of other nano technology CEO's and other start ups, and you see a lot of value in that

incubation process being sort of homogenized together. So I would -- I'm kind of like -- I don't know if I said anything specific there, but I endorse the incubator client -- the client value to being together with other technologies as they emerge, and whether the branding be different or the same, I think it's the unification of the incubator that has a lot of value to all the clients.

MS. BITTMAN NEVILLE: Good. Thank you. So again we get interesting perspective from a variety of different companies and organizations on the Cleantech incubator. So I think that was good feedback.

So we'll move to idea No. 7.

MS. GRANJEAN: Idea No. 7. The adoption of comprehensive green buildings. We are hearing a lot about green buildings these days, and most often this means buildings that are LEED certified. LEED stands for the Leadership in Energy and Environmental Design green building rating system that provides a set of standards for environmentally sustainable development. Examples of LEED certified green buildings in Orange County include the new medical examiner's office, a new fire station and a new urban center. Building green can also mean making renovation and improvements to existing buildings.

This slide was presented at the last symposium by Mitsubishi, and it describes a PV demonstration system. In it, they're installing it on the roof of an existing building.

Many cities across the nation are going a step beyond what we are here in adopting green building codes and ordinances for new buildings and renovation from New York City to Boston to Nashville and Carolina.

So when it comes to attracting, creating and growing Cleantech companies in our community, how important is it for us to formally adopt comprehensive green building codes and ordinances?

MS. BITTMAN NEVILLE: So as we hear the question as it relates to green buildings, when it comes to attracting, creating and growing Cleantech companies in our community, how important is it for us to formally adopt comprehensive green building codes and various ordinances. So for those of you who would like to comment on that, if you wouldn't mind stepping over to the microphone, please.

MR. LAROE: Ken LaRoe at First Green Bank again. I think this is an imperative also. I've been at the epicenter ground level of -- in a small community in Eustis in Lake County of the revolution in the building industry that can happen. We've had a very progressive

city commission elected by an upheaval in the community when an out of town developer controlled -- purchased and optioned a thousand acres outside the city, out of municipal services, and proposed a five-acre, what I call, slash and burn development. It basically caused an election that got rid of all the city commissioners, all of the city staff, all of the -- from the city manager down, and implemented progressive personnel in those positions. And now is the time to implement this, when building is slow, when development is slow, and the building industry is generally in the plysistine concerning anything sustainable. And, again, it's going to take mandates to do this, but we have to be very careful, because it's hard for a citizen, it's hard for the community, it's hard for society as a whole to compete financially with money self-interested parties, and when the worm turns and land is now again worth $50,000 an acre, they will do whatever it takes to change the law makers and change the laws. So I would think it needs to be implemented with some super majority type things to prevent it from being changed once the worm turns again.

MS. BITTMAN NEVILLE: Good. Thank you.

MR. BRUDERLY: Dave Bruderly, green environmental consultant from Gainesville, Florida. This is right on

the money. I mean, you've got to have a government policy that is clearly understood and has a clearly stated public benefit. And going back and revisiting local development ordinances and building codes is now the time -- is the time to do that. And I say this because the Florida Solar Energy Center, with their zero energy home, demonstrated that this is not an economic disaster. This is actually a way to add value and create value by making more efficient use of off the shelf, readily available building materials and technologies. You just put them together more wisely using better thought out construction technique, better designs where you take advantage of the site conditions and available resources. Not just energy, but also water and the land. And waiting for this to happen from a federal standpoint or from a state standpoint is going to be a long wait because there's a lot of powerful economic interests who don't want to see rapid change. However, this is a case where if you have local government that understands the problem, then we are best positioned to solve that problem. And, again, I'll use Gainesville Regional Utilities as the case in point. The city commission voted to use our local economic resources, our municipal utility, to instill a sustainable energy program that's also, by the way,

closely tied to building efficiency, conservation, demand management, and all the other good things that we want to see about making wiser use of our energy investment.

MS. BITTMAN NEVILLE: Thank you.

MR. HOLLER: Hello. Michael Holler with CO2 Scorecard Group. I just have a couple of quick points on this.

The first is I think that the green building codes are important and reform to the building standards are important not only looking forward in terms of new construction, but also in terms of renovation and in retrofitting existing buildings. Just harping back to something which Jim Fenton from the Florida Solar Energy Center said at the last symposium, the vast majority of our building stock, both here in Florida and around the country that will be in 2050 is actually already built. And so if you're going to make a significant dent in energy efficiency or in any of these issues, you need to look at our existing stock in renovations as much as you need to look at your new building going forward.

MS. BITTMAN NEVILLE: Thank you. Anyone else? All right.

MS. GRANJEAN: Idea No. 8. The creation of a Cleantech center at UCF. And faculty members and

graduate students from different departments of science, engineering, business and economics could partner with the technology incubator, the venture lab, the nano technology center, the Florida solar energy center, etc., to do research, develop policies, foster innovation and economic growth. This initiative is currently in existence at the Washington State University. It includes a graduate study program and clean technologies. Through dedicated Cleantech programs, this center can be a cornerstone of the region's Cleantech business development and knowledge advances for the mission. They have created a one-stop shop, state of the art website with links to different resources. Projects are currently being carried in the following clean technology sectors. Advanced materials, environmental policy, renewable energy biofuels, smart grids, sustainable design, sustainable farming.

In New York, four academic institutions, University of New York, Bronx Community College, Pratt Institute and Pace University School of Law have been working together with the City's office of long-term planning and sustainability to formulate clean energy and sustainable planning programs. Cities can benefit tremendously by playing an active role in coordinating efforts among their institutions.

So what a great opportunity to get a maximum bang for the buck. Is this a great idea for UCF in Metro Orlando?

MS. BITTMAN NEVILLE: Well, on this idea No. 8, the question is: Cities, as she said, can benefit tremendously by playing an active role in coordinating Cleantech efforts among institutions. What a great opportunity to get the maximum, as she quoted, bang for the buck. And is this a good idea for UCF and Metro Orlando. And, again, we know we have representation from UCF and many from both the government and the business sectors. So what are your thoughts on idea No. 8?

DR. ANDERSON: Hi. I'm Dr. Jeff Anderson. I'm associate director of the Nano Science Center. It's an interesting proposition. It has -- it has value, although it gets a little tricky as academic units. That is, for in nano science, we have a number of people who are -- who have joint appointments at Florida Solar Energy Center, Jim Fenton's center, and respectively the nano faculty also work closely with the people from the Florida Solar Energy Center. So we have Cleantech research groups working. And, again, academia, you know, you can name things, you can create a whole spectrum of entities, but the question is, you know,

what's their core funding and how are they organized. So right now, I mean, my bias would be to -- you know, as a representative of the nano science center, again, with these somewhat loose terms, Cleantech, even nano science. We have a lot of people that are working with cellular systems, a lot of people that are working with biological systems, medical devices, and so forth, so if we, you know, renamed or relabeled ourselves, you know, it would automatically exclude this very large part of our group. So my bias would be at this point for UCF, in general, I don't think it would be helpful as a -- you know, for an academic unit to be so named, although, you know, if you take a look at our website, you'll see that there's a prominent energy focus that's part of it. But we've been constructed as very much a multi-disciplinary, multi-topical area center.

MS. BITTMAN NEVILLE: Okay. Thank you. Any other thoughts on this idea?

MS. CHADWICK: I'll just concur with him, just knowing the situation out at UCF.

MS. BITTMAN NEVILLE: Okay. So we've got a concurrence. Any other?

Going once. Just kidding.

MS. GRANJEAN: Idea No. 9. Creating a Cleantech city. Incubation manufacturing and showcase building

here in Metro Orlando. Cleantech institutions can be a good way to attract businesses in clean technology. They can serve as business incubators for start ups, work force development and training centers, or showcases for Cleantech products.

Metro Orlando could construct a free-standing building in Research No. 2 in Innovation Way that would include an incubator, a manufacturing, and a showcase space for Cleantech products.

The construction of a 20 acre Cleantech manufacturing center in downtown Los Angeles will serve to showcase the City's efforts to lead in Cleantech business development. The building would be the southern anchor of Los Angeles' Cleantech Corridor extending four miles along the Los Angeles River.

The Cleantech manufacturing center seeks to attract Cleantech companies and sustainable manufacturers.

In New York, the Saratoga Technology and Energy Park in New York State is a true cleantech magnet institution.

The Strong Skilled Workforce, for instance, in 2005, they said that New York institutions awarded 2,419 science and engineering doctorates, along with 1,700 engineering, 2,700 computer sciences, 2,700 physical and biological sciences, 675 mathematical degrees. It is a

knowledge community for clean energy and environmental technology companies in New York State Tech Valley.

Concentration of like industries in an area known for innovation and creativity can generate great opportunity for success. So do you think this is a great idea for Metro Orlando? How does creating a Cleantech city building translate in Cleantech research and development?

MS. BITTMAN NEVILLE: So with our idea No. 9 being a Cleantech city, what do you think of such an idea and how does creating this Cleantech city building translate into a true commitment in clean technology research and development? And, again, I know that we have a number of different mindsets out there on this idea, so I would invite you to step to the microphone and share your thoughts.

See, sometimes the pregnant pause works.

AMANDA: Hi. My name is Amanda. I'm a research assistant at the institute working on the Cleantech study, and I read about the City of Destiny, Florida trying to create the first sustainable city in America, and I was interested if anybody here knew anything about that, about the creation. They even said they wanted to create a Cleantech hub as well and they wanted it to be like the --

MS. BITTMAN NEVILLE: And the city name again?

AMANDA: Destiny.

MS. BITTMAN NEVILLE: Destiny, Florida; is that correct?

AMANDA: Yes.

MS. BITTMAN NEVILLE: Her question is open to anyone here if you have any information on it.

We'll certainly try to do some research, get you in some information.

Anyone else wish to comment?

Yes. Please. Come on down.

MR. ROSS: Mike Ross with Greater Technologies. Just an observation because I'm an entrepreneur and a businessman, and, you know, I think the last couple of ideas all focus in an area that are near and dear to my heart in proving success of any ideas and they're branding and marketing ideas. I think whether we talk about like a Cleantech incubator or the department at UCF or Cleantech City, I think these give our economic development folks, like John Lewis and everybody else in our area, a banner to draw and attract a lot of interest. And I think you have to think along these lines if you're trying to build a catalyst of that everybody here is trying to build. So just that's the observation that it makes good marketing sense to look

at opportunities like this. I don't think it's wasted effort and, in fact, it's good money spent to get a clear picture out there in the market as to what Orange County's trying to do.

MS. BITTMAN NEVILLE: Good. Thank you.

Please.

MR. LAROE: Ken LaRoe. First Green Bank. A quick comment on Destiny. I don't know a lot about them. I've researched them some, I've met with the folks, the principal players at Destiny. They've certainly got some people on staff that their hearts are green. But one needs to look further into the genesis of the development. It is a DRI that was approved by the State of Florida. It's huge. I don't remember the size, 27,000 acres, 48,000 acres. It's huge. Encompasses a huge part of undeveloped Osceola County that some of the, you know, premiere undeveloped eco systems in the state of Florida. So just need to look very closely at what the genesis of it is and the ability of them to get a DRI for a project like that.

MS. BITTMAN NEVILLE: Thank you. Any other comments?

MR. LEWIS: That building, incidentally, in the picture is the Infomart in Dallas, if you've ever been out of Simmons, near -- just out of downtown. That

really is a showcase for technology. It's a million, six square feet.

MS. BITTMAN NEVILLE: Which one is it, John? Which picture?

MR. LEWIS: So we could visualize something like that for Cleantech City. I mean, when we meet with Cleantech companies, in addition to incentives and other types of -- they're interested in having a place where they can showcase their technologies. You know, we lack preready manufacturing space for all incubator companies really when we get to that stage. The building won't look exactly like that, but when you look at just incubator space and manufacturing spaces for Cleantech companies, especially showroom types of facilities, we don't have anything like that. That's a huge development. And you think of Medical City, was that -- what that's doing for us. This would be Cleantech city. Something like Los Angeles is doing.

MS. CHADWICK: Now she segues right into what I was going to comment about. I was hesitating because this does look very expensive and very cool. There's no question that that would definitely be very jazzy, you know, from a brand new perspective, but, you know, I just go back to what all went into making the Lake Nona area, you know, the medical city that it's now becoming.

And it was just so much more than a building or an incubator. You know, the state put, what, hundreds of millions of dollars into economic development incentives to get Burnham here, and, of course, UCF Medical School was approved and is now a reality and what not, and so I just would hesitate putting -- you know, this is something I think will take maybe a stage two kind of a thing, after we go through this earlier stage stuff that we brought up in some of the other topic areas. I think maybe it goes in there as a long term, gee, if we get this far, then definitely let's puts some dollars in. I just would be concerned a little bit about putting the cart before the horse. We're still working on some of the fundamentals of incentives, and, you know, funding for early stage companies, and we already do have incubators. This would be something that would be another incubator a few years down the road once all these programs are established and working. So, again, I like the idea. So I'm not saying that I don't. I think it's a beautiful thing, but I think it maybe needs to be a stage two, or if we can just get a big corporate sponsor to come in and not let that come out of our tax dollars, because I personally would rather see that go towards some of the things we've talked about already in the job creation and what not.

MS. BITTMAN NEVILLE: Thank you. So the gentleman who's in the incubator, where are you? There you are. And, you know, mentioned that certainly it might be able to give us a so-called banner, and sometimes it might be just the thought of a -- of rebranding, so to speak, and putting some marketing to what we have, and kind of helping to create the perception to others that, yes, we've got the reality of all the different resources that we have. How are we actually marketing them. You know, just a slight change in verbiage can certainly change what you have in existence. And maybe that might be an idea that can help us to indicate that we do have a Cleantech city, or an incubator, those types of things.

So we shall now hear our last idea.

MS. GRANJEAN: Idea No. 10.

This is only if we're serious about Cleantech. We should be. I mean, we should be walking the walk, as they say. Metro Orlando can enact many supporting policies to attract more businesses to the region. Policy levers vary from traditional business financial incentives, such as a business location incentive, to more recent policy innovations, specifically Cleantech. For instance, in the City of Chicago, they offer residential and commercial developers that build green

an expedited permitting process 30 days instead of 100, and a free design review which can cost from $5,000 to $50,000.

Procurement policies. Portland, Oregon was the first U.S. city to require that all vehicle fuels sold in the city contain biodiesel 5 percent or ethanol 10 percent starting in 2007. Some cities require all government vehicles use those fuels.

Other policy initiatives, for instance, Simplified Standardized Energy Efficiency incentive, like a one-page instead of too many pages, that can be confusing. Also extending and expanding solar rebates to add stability to the market, businesses can benefit greatly from that.

We could also wish for a statewide uniform green building mandate. For instance, to have a minimum LEED rating of silver for new commercial construction and a minimal viewpoint rating center of 50 points for residential construction. And they are the ones such as renewable energy standards such as feed in tariff for solar and other renewable energy. Allowing consumers production to count to what utilities RPS, for instance.

So public policy is the key driver for Cleantech businesses and investing. How can Metro Orlando attract businesses here?

MS. BITTMAN NEVILLE: As we end with idea No. 10, the question is, public policy is key driver for Cleantech businesses and investing. How can we attract businesses here?

And I'm sure that we've certainly got some ideas about that. So if you wouldn't mind stepping over to the mic for one last time, at least in this segment of the program. How do we attract businesses? What is your one key idea that you would like to share with the group?

MR. BRUDERLY: Madam Chairman, Dave Bruderly.

MS. BITTMAN NEVILLE: Yes.

MR. BRUDERLY: Policy is what this is all about. We have lots of technology, we have lots of people who can implement technology. What we need is policy that redirects investment into the most cost effective ways of achieving your goals. In this case, a green economy. And we need indicators of what defines green. And I think there are indicators that work very well in the field of energy, and in the field of water, in the field of land. And I really think it's important that local governments codify those policy goals into these very simple performance-based indicators or sustainability indicators, and then you modify your ordinances to follow those, and that will then direct funding money

into achieving those goals. The Destiny project was mentioned. I mean, it's a wonderful concept except for the fact that it's out near Yeehaw Junction, which is a long way from nowhere. And the reality is just driving in here this morning -- and I had to drive because there is no affordable, convenient public transportation in this region -- I saw a lot of empty office space that had been built on a spec level. There are huge opportunities to redevelop existing areas that have already been paved over, that are underserved with sustainable infrastructure. And redevelopment of these areas with sustainable infrastructure, both private sector and public sector investment, not into building out into cow pastures and citrus groves, but into redeveloping what we have, can only be implemented with local ordinances. And it's essential that we start to have this debate. And I know in our community we're in the AR review process right now, which is the environmental assessment review for the comprehensive plan. And I think these concepts need to be communicated back to your elected officials at the city and county level and integrated into the comprehensive plans in ways that are easy to understand, they're not archaic, and ways that you can take -- that a developer and entrepreneur, a property owner, can take them to the

bank and get financing to implement this stuff. And if we don't have money, we can't do anything. So we've got to be able to use what credit we have left to implement and to change our policies and implement these ideas in ways that make economic sense. And that's been missing in the State of Florida. We need to fix that.

Thank you.

MS. BITTMAN NEVILLE: Thank you. Any comments? Please.

MR. LOGAN: Hi. Paul Logan. Calypso Building. I agree with Dave. I think that this might be the key for the whole thing. And let me just use one example. Hawaii last year, 100 percent of new buildings have to have their hot water heated by the sun. So here's one code that was changed, and out of that, if you look at some of these green collar jobs, they're going to be demanding more education that will pull that, reaching No. 1, the renewable energy. That will go along. So we need some kind of leadership from the state that can turn most of these things on their head overnight and produce a level playing field. For, as a builder, if I go in, I'm competing against everyone who's not doing it the same way. And so you get individuals who are willing to invest in green, but as far as the marketplace when you're building spec homes, you

sometimes actually choose to put three electrical outlets versus four because you know that will save you, and it's a spec home and you're not going to get that money back. So if you're -- you know, from a builder, if you're looking at little things that cost a dollar or $4 or things like that, and you're making decisions, and then you look at, will you put a solar on the roof that might be thousands or tens of thousands, it's not going to happen. And the code will do that.

MS. BITTMAN NEVILLE: Thank you.

Please.

MR. PIERCE: Cary Pierce. You had mentioned how do we bring the businesses. Being as that's my job, bringing businesses to Lake County, looking at the different policies that exist, not only in Lake County but throughout Metro Orlando, a lot of different government entities countrywide have a lot of incentives that are already in place. They do have a lot of rapid, fast permitting processes that are already in place. It's for target industries that they want to identify to bring into those areas. Some of the cities have these same type of incentive programs that are there. I really think what it comes down to is maybe the thing I talked about earlier with the Cleantech program manager. It needs to be more of a situation where you have an

individual and/or entity that realizes the importance of stressing this towards the Cleantech and structuring it and designing it towards Cleantech. A lot of the things that are currently there, these incentives, Cleantech fits into what's currently there. So it's not a matter of rewriting or totally abandoning existing policies and putting in new ones, it's taking the ones that already exist, and we need to tweak it a little bit, do we need to adapt it, or just leave it the way it is and recognize that Cleantech is an aspect of this and implement it from that standpoint. The other thing as far as bringing businesses in, it's not so much having the policies in place, it's how you implement those policies and also how you let these business entities know that these policies are implemented. Information is available to anyone through the Internet. There's a lot of entities and organizations that exist to go find places for businesses to go. And they read all of these different incentives that are out there. And every county has them, every state has them, every city has them. So where the differentiation factor becomes is in the work force development, is in the demographics that exist, and also how these policies are implemented. If they have a successful track record, then the business is more likely to go. If they don't have a successful

track record, you're not even on the table anymore. So it becomes how we implement for whether the businesses come or not.

MS. BITTMAN NEVILLE: Thank you.

Please.

MR. LAROE: Ken LaRoe again. The last question was if there is any other ideas, and another idea that I would propose that kind of falls into the policy lever is the fastest thing I think Orlando could do, or most any municipality could do, would be to mandate, implement, however you want to look at it, an energy upgrade to all of the buildings that are publicly owned. This can be a school system, it can be a county government, city government. And the programs are already in place to do this. The State of Florida has the local government energy retrofit program, and at the worst case, these are revenue neutral. At the best case, they're revenue enhancing. And then with the current administrations leaning with the economic recovery program, there is certainly going to be funds flowing down federally, and I think this is something that would instantly happen, it would instantly create the training, it would instantly create everything else we've been talking about.

MS. BITTMAN NEVILLE: Good. Thank you. That, of

course, ends the presentation of our 10 ideas, and the only thing that I would just like to say is just, hats off to all of you. Thank you very much.

We now will go into our open forum, and we invite you at this point to either continue to expand upon one of the ideas that you have heard about, or if you and your company would like to present what you have to offer in this area and topic, you are more than welcome to come down. We'll allow the individuals to have two minutes.

So, yes, ma'am. Please come on down.

MS. HOPCRAFT: My name is Cynthia Hopcraft with Eco Clean Solutions.

MS. BITTMAN NEVILLE: Just so that everyone can see you, why don't you come over here, if you don't mind. That way, everybody doesn't have to try to see you around the corner. How's that?

MS. HOPCRAFT: Okay. My name is Cynthia Hopcraft with Eco Clean Solutions. And to break the prejitter public speaking moments, I'm a native Orlandoan. I've been in the telecommunications industry for 35 plus years, and the product that I am promoting is called Symic Solutions, and the active ingredient in this product is titanium dioxide. It is suspended as nano particles of TI02 in a proprietary solution, and is --

TI02 is in many everyday products. Toothpaste, sun block, gum. Everything you can imagine. Just start looking at your labels. It's in eye shadow. Anyhow, it's a very extensive list of where titanium dioxide exists. Titanium is a natural mineral. In a nutshell, Symic Solutions prevents mold, mildew, and algae growth. It eliminates and/or controls bacteria and viruses. It can be applied to any vertical or horizontal surface, includes residential settings, commercial settings, such as hospitals, schools, office buildings, government buildings, and this product has been approved for government purchase orders. Symic Solutions works along with the sunlight, indirect sunlight, indoor lighting and oxygen is generated in the process. In many applications, it will reduce greenhouse gas emissions, and it has UV protection capabilities. The product can be reformulated to remove the UV block capabilities. The use of Symic creates self cleaning buildings, automobiles, building roofs, sidewalks, and an endless list of other vertical and horizontal surfaces, and it can create jobs now. Some of the job opportunities just off the top of my head are application technicians. We can be very easily trained and quick and easy. Supervisory positions, distributor and dealership opportunities. And, in closing, Symic Solutions will

save millions of gallons of water. It will eliminate hash and harmful cleaning agents currently used in many different industries and residential settings and markets. It saves times and money, and it will be a large contributor to the Cleantech initiatives in Orange County and around the world.

MR. LEWIS: Cynthia, can you share a couple of the larger facilities where the product's already being used or is slated to be used?

MS. HOPCRAFT: Yes. One of the test sites was at the Dolphin Stadium in Miami, and they tried just a certain area for about three or four months, and now they -- we have a statement from the head maintenance engineer there to say that for the past three years Symic Solutions has solved a lot of their problems. And there's also been things down at University of Florida, University of Central Florida from what I understand, and hospitals around the country.

Any other questions?

MS. BITTMAN NEVILLE: Thank you.

MR. LAROE: Ken LaRoe. I'm the CEO of First Green Bank. Anybody that's got my card, you'll see, in organization. As of yesterday, we're no longer in organization. We opened our first two offices in Eustis and Clermont, so that was a really big day for us. Our

initiative with the bank is we're a bank, we're a bank, we're a bank. We loan money, we loan money. To a guy that wants to do a slash and burn five acre development, kicking and screaming, I'll loan him money, and I will try to educate him to the benefits of doing something better. We are going to try to attempt to influence behavior. Of course, we can't mandate it. We're offering interest rate incentives to anybody who will build a LEED building. And the incentive is deeper the deeper you go into the certification, of course. The other thing we're involved with right now, I've got two loan requests in front of me for green field solar in the Gainesville, GRU feed in tariff thing. So I can tell you firsthand, that absolutely works, because the entrepreneurs are coming out of the woodwork to try to do that type of project. It'll be new to us. I've never financed one before, nor do I know anyone who has. So I'm working closely with my attorney to develop the documentation necessary. We'd also like to try to provide a packaged loan to preferably commercial entities to do solar. We feel we've done some research, and you guys who are in solar probably already know this. I didn't, and it surprised me as a banker. There's a very large ready market for used PV, and so then the light bulb went off to me. You know, how do

you finance this stuff? Well, you finance a pool for somebody or a home improvement, do a kitchen remodel, you can't go take their granite countertops, you can't take their pool if they stop paying, but we can structure the documentation, I believe, with UCC filings, and if somebody doesn't pay us, we can go send a crew out and take the PV off the roof and resell the darn thing. So I think we're going to be in the cutting edge of that documentation legal/financial end of some of the financing on this. Also, the Florida local government energy retrofit program is something that I think we'll be hearing more about. There is, I think, 10 certified retrofitters that have been approved by the State. They have to be approved because when they go in and do the audit, if the entity does not experience the savings that they say they will experience, then they have to make up the difference. And these are not little, you know, small bit players, they're companies like Johnson Controls, and we were looking at a couple projects for some cities to do that. And for us, as a bank, that's easy because we can easily underwrite a city. We can easily underwrite a county. It's no different than bond underwriting. And what they're finding is that, not only will the savings usually pay the loan back, but there is enough savings to pay the

loan back plus embellish general revenue. So keep all that in mind. If anybody's got any ideas, please give me a call. We're on the -- we've got a website that -- the good one just went live yesterday, so it's probably not going to work, but it's, you know, First Green Bank. Google it, we're there. So thanks.

MS. BITTMAN NEVILLE: Thank you. Anyone else? We have two minutes.

Last two minutes, sir.

MR. ALLER: Hello. My name is Michael Aller. I'm with CO2 Scorecard Group. We're a group of researchers and investors both here in Central Florida and quite a few of us up in Washington, D.C. who are putting together an initiative to create a website to create benchmarks for energy efficiency and actually set up a system whereby we can look at public available information on states or on -- especially on public utilities and help them help create a listing of how they're doing on their energy efficiency, how they're doing on there carbon emissions. And this is not something which has so far been publicly available. So we're in the process of setting up a prototype. And we have a website. It's called CO2scorecard.com, all together. And I'm happy to talk to anyone about it afterward. Thanks very much.

MS. BITTMAN NEVILLE: Thank you.

Well, it has been my pleasure to facilitate this morning's activities in presenting you the 10 ideas. We certainly appreciate your time, your participation and your input, and we're done. So I'm going to turn it back to John.

MR. LEWIS: Not quite.

MS. BITTMAN NEVILLE: Not quite? And, again, thank you so much. We hope that you will complete your survey card and turn that in as you leave. We will be compiling that and then presenting the information. So I'll turn it back over to John.

MR. LEWIS: Nyda, thank you very much.

MS. BITTMAN NEVILLE: Thank you. Thank you very much.

MR. LEWIS: If you'd like to know more about what Nyda does, her website is TNB Group. Tnbgroup.com. And I would encourage you all to visit and find out all the different kinds of things that she does. This is just one small part of what she can contribute to your organization.

I also want to thank Leslie Richmond. Leslie, could you just raise your hand up?

She just missed a beat on what she's typing there. But she's been here for all three symposiums, and

because of her good work -- she's with Zacco & Associates, Z-A-C-C-O. I don't know the website for that, but I -- that sounds like something that would come pretty easily to the top of Google if you want to look at that. Because of her good work, we're able to e-mail out to you the full written transcript of every one of our symposiums. You know, you go to a lot of conferences, and events, and symposiums, and it's interesting and you make notes and so forth, but, you know, a lot of times, we leave, go back to our jobs, and the next day we can't quite remember what was said, especially a couple of months later. We want these symposiums to have lasting value, so we have full written transcripts of every symposium and a full video of every presentation and every discussion session, and we will e-mail -- we do e-mail out the links to those videos. And as soon as we can, we're going to upload all that to the Orange County website so you'll have that.

I also want to thank Christa Santos. She has done a lot of work in organizing these events, and she deserves special recognition.

And I also want to, once again, if they're still here, recognize Jim Williams, Shawn Wattles. Are they still here?

Stand up so everybody can see you. With Mitsubishi Power Systems. You saw some of the exciting things just on the slide of what they're doing, and I would encourage you to look at that website and just see all the different kinds of things that Mitsubishi is doing here. They monitor, for example, all of their power systems in the western hemisphere from here. You don't realize a lot of times what some of our major companies are doing, but they're doing a lot and they're putting us on the map.

Also, Tom Bland with AquaFiber. Is Tom still here?

MS. BITTMAN NEVILLE: He left.

MR. LEWIS: He has helped us with each one of our seminars, and we appreciate that.

And, of course, Jim Weaver with the Downtown Center that hosts us, and Amy Edge -- Amy Edge Didgemore with the EDC.

Jacques is here for the rest of the day, and tomorrow we're going to be visiting Medical City. We're going to be visiting UCF. And so he's going to be well acquainted with what we do and we look forward to a close relationship with Jacques as we move forward and we learn from each other.

So thank you very much for coming, and I think the next symposium, the dates not been set yet. We'll let

you know. It will probably be a presentation of the draft of the Cleantech study on our assets, capabilities and possibilities that we'll be preparing that hopefully will provide guidance in helping our Mayor, Rich Crotty, give one more punch to his lasting legacy, and also provide a few ideas for the next mayor when he comes in. So we look forward to this to be a very meaningful process, and we could not do it without all of you here. I think just in a discussion of the various ideas, some of the ideas I thought were pretty popular, you all didn't think those were the highest priority, and maybe we all felt that a little bit, but that feedback that we got from you today really is going to help in providing a sense of direction to Marielle and Sean as they move forward and further develop their study.

And I think Marielle Granjean deserves special recognition, too, for the great job she did in putting together those 10 ideas culled out of dozens and dozens and dozens of them. So I applaud you.

And thanks for coming and we'll see you next time.

(Meeting concluded at 11:45 a.m.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA
COUNTY OF ORANGE

I, Leslie Richmond, Registered Professional Reporter, certify that I was authorized to and did stenographically report the foregoing meeting, and that the foregoing transcript, including 134 pages, is a true and complete record of my stenographic notes.

Dated this 9th day of March, 2009.

_____
Leslie Richmond, RPR and
Notary Public

(This signature is valid only if signed in blue ink.)