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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
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Purpose	When & Where	Agenda	Contact
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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

Contact

For more information, or to register for the event, contact:
Christa Santos @ 407-882-1576 or 407-230-7018 (cell) or
christa@cksmarketing.com

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1 PROCEEDINGS

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

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

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

25 Also, the Orlando EDC, they helped us sponsor

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

9 John?

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

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

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

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

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

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

1 take full benefit of developing the Cleantech
2 environment.

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

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

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

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

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

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

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

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

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

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

20 Thank you.

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

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

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

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

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

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

1 available to cities as early adopters.

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

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

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

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

15 In terms of our own trucks, trash pickup, we have
16 moved away and use now low sulfur diesel fuel as a way
17 to reduce carbon emissions. We're mandating that all
18 city facilities, and it's -- I think it has to be above
19 5,000 square feet, to be LEED "silver". That's a big
20 change. It's somewhat along with what Title 24 in
21 California, which is energy efficient requirements,
22 which is about 20 percent above the national average.
23 So that's something we're going to continue doing.
24 We're looking also at green buildings for the commercial
25 aspects and residential.

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

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

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

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

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

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

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

1 they move forward.

2 The California Energy Commission has recommended to
3 adjust Title 24 to become a net-zero-energy performance.
4 That's kind of the overall goal that the City's putting
5 for us, residential building by 2020 and commercial
6 building by 2030. That only applies to new
7 construction. It's a daunting challenge. That's going
8 to take a lot of effort, given today's energy efficient
9 homes are very below average. Even though California
10 has Title 24, Title 24 is somewhat close. Today, Title
11 24 is about close to certified LEED. The new Title 24
12 will be closer to a silver level. But it's still a long
13 way to go. But it's an interesting part. That will
14 help us create demand. It is actually already
15 happening. People are already planning on developing
16 products that will target these type of areas.

17 The other thing that is really helpful in
18 California in terms of a government framework is called
19 AB32. It's the Global Warming Solution Act that was
20 passed about two years ago. It's been enacted this
21 year. It's a daunting task. The whole idea behind it
22 is to take 1990 levels and reduce CO2 consumption to a
23 1990 level by 2020. And then the Governor signed an
24 executive order to have -- by 2050 to have 50 percent
25 below the 1990 level. So what does it tell us? Well,

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

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

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

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

25 And this is the area that I want to mention why

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

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

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

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

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

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

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

1 the 1970's. Biomimicry is really two things. So bio
2 meaning life, mimic meaning to imitate life. Here's an
3 area that we think has huge potential for us. And
4 nature, in a nutshell, had 3.8 billion years of
5 evolutions, right? Of all the species and plants we
6 have today are the most probably the top of the top.
7 The only reason they're here us because they survive,
8 adapt to life. What biomimicry does is looking at
9 life's answers to today's problems. So what we've done
10 here is create a partnership with the San Diego Zoo,
11 which has been around for sometime, and do research in
12 32 countries around the world so they have the wealth of
13 knowledge and they have something like 4,000 plants and
14 animals at the wild animal park and at the zoo, and we
15 also partnered with the Biomimicry Institute and Guild,
16 and the whole idea is to create San Diego sort of a
17 natural hub for biomimicry. So we're hoping people will
18 come to work with the Guild Institute and the zoo, and
19 in doing so the local companies may see inspiration in
20 creating new products. And there are about a hundred
21 products out there, and I will be happy to talk to you
22 some of them. But this is a very interesting area. It's
23 sort of 10 years down the line. I mean, we're talking
24 about something that could be unique in the future and
25 that's what we're sort of betting on. So the

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

7 Today, solar panels, invented late '60's, early
8 '70's, the efficiency rate in a silicon panel is about
9 20 percent, depending who you talk to. They say 20
10 percent, right? So that means every photon that
11 actually hits the cell, only 20 percent actually come
12 into electricity. If you look at photosynthesis, it's a
13 hundred percent. So there are companies out there
14 trying to recreate photosynthesis as a new form of solar
15 panels.

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

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

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

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

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

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

1 bullet train is everytime, I think -- everytime it went
2 through a tunnel, there was a sonic boom that was
3 created. So that was very inconvenient to residents
4 around it. So they say, well, why can't we do this.
5 How can we figure out a way around this. And one of the
6 designers of the bullet train was an avid bird watcher,
7 and he looked at the -- I think it's called the
8 Kingfisher, and that particular bird, everytime he would
9 dive into the water, doesn't make a sound. Studied the
10 actual structure of the bird. And if you look at the
11 train, it has some of the same -- and now the sonic boom
12 is not apparent anymore. So that's pretty amazing.
13 Tape, right? We all know tape, but do you all know this
14 guy? The gecko. I mean, this is a pretty amazing
15 animal. I mean, it has millions of microscopic hairs at
16 the bottom of his feet, and these hairs are pretty much
17 what allows him to stick to surfaces. You try to remove
18 a gecko, it has 250 pounds of pressure. So not only it
19 sticks, but it's pretty solid. So a company went out
20 and developed a new type of adhesive that is, by the
21 way, fully biodegradable, has no chemicals and so on.
22 So to kind of end up, this last slide is biomimicry
23 and all the other aspects that we are doing is an area
24 that has a lot of potential for us in trying to create
25 the next generation of ideas. Nature has done it all

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

3 Questions?

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

11 MR. CHIRAZI: Yes. Definitely.

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

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

17 MS. HOPCRAFT: Right. And this one is.

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

20 MS. HOPCRAFT: Sure.

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

1 non invasive type of agents.

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

6 MR. CHIRAZI: Definitely.

7 MS. HOPCRAFT: Thank you.

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

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

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

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

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

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

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

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

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

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

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

18 MR. CHIRAZI: It's not enough.

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

21 MR. CHIRAZI: Definitely.

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

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

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

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

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

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

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

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

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

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

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

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

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

8 MR. CHIRAZI: Yes.

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

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

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

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

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

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

7 MR. CHIRAZI: Thank you.

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

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

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

4 MR. BLAND: Thank you.

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

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

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

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

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

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

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

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

10 MR. LEWIS: Very good.

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

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

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

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

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

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

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

1 the agenda.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1 order to jumpstart the market for clean technologies.

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

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

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

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

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

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

24 MS. BITTMAN NEVILLE: Thank you.

25 MR. WATTLES: Shawn Wattles with Mitsubishi Power

1 Systems. Piggybacking on what the gentleman just added,
2 starting at a local level I think would be a more direct
3 approach and probably have a more vital impact.
4 Implementing statewide standards with such a broad brush
5 can have adverse impacts in certain areas and, you know,
6 the law of unintended consequences can come into play
7 here. I also believe this needs to be looked at from
8 the standpoint of a balanced energy portfolio, which
9 would include current resources, nuclear, clean coal,
10 natural gas, et cetera. So setting out a goal of just
11 20 percent and just calling it a black and white make it
12 or don't make it can have negative impacts in the long
13 run, too.

14 MS. BITTMAN NEVILLE: Thank you.

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

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

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

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

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

15 MR. LAROE: I'll try to be brief. Ken LaRoe, CEO
16 of First Green Bank. I think that we need to do this at
17 the state level. If there is an embellishment at the
18 local level, that's all the better. I think the goal of
19 20 percent by 2020 needs to be simple, needs to be
20 measurable, needs to be direct. Like Cary just said,
21 that all of the policy implications will flow down from
22 that. We need mandates. The -- as all of the stuff
23 that's happened in the financial industry in the last
24 couple of years has shown, the market will not self
25 regulate despite what people want to think, and we need

1 mandates and this needs to be put in place immediately.

2 MS. BITTMAN NEVILLE: Thank you.

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

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

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

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

18 MS. BITTMAN NEVILLE: Thank you. So, again, if you
19 would like to comment on this particular idea, idea No.
20 2, clean energy fund. The question is, of course, what
21 do you think. We are very interested in getting your
22 comments. How important do you feel that it is to
23 establish a Florida Clean Energy Fund and do we think
24 that it is actually achievable in this economic market.
25 Any comments, please step to the microphone.

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

19 MS. BITTMAN NEVILLE: Thank you.

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

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

20 MS. BITTMAN NEVILLE: Thank you.

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

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

12 MS. BITTMAN NEVILLE: Thank you.

13 Anyone else wish to comment on our second idea?

14 All right.

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

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

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

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

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

1 comments.

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

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

1 importance?

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

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

17 Thank you.

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

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

16 Carol Ann's nodding. That's good.

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

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

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

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

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

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

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

25 There are plenty of training programs throughout

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

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

1 maintenance technicians to solar installer and
2 technicians.

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

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

25 So is this idea an important one to pursue, or

1 should we let these training programs evolve in due
2 time.

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

23 Or I'll call on you.

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

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

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

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

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

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

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

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

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

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

7 Please.

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

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

5 MS. BITTMAN NEVILLE: Thank you.

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

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

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

11 MS. BITTMAN NEVILLE: Good. Thank you.

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

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

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

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

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

14 Other cities have been taking similar initiatives.
15 For instance, in the City of Austin, Texas, with City
16 funding, the chamber of commerce even hired a full time
17 director of economic development, Laura Valentine, with
18 a specific task: To seek and support clean energy
19 companies. This initiative paid off since Austin was
20 named last year the No. 1 Cleantech city in 2007. In
21 2005, San Francisco's Mayor, Gavin Newsom, established a
22 16 member council whose mission was to promote and
23 create the City's Cleantech agenda, bring Cleantech
24 businesses to San Francisco, and create job
25 opportunities in high skill industries, and they have

1 seen great results.

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

5 MS. BITTMAN NEVILLE: So as you hear our idea No.
6 5, and, of course, I believe we've got representation
7 from a number of the organizations and groups that were
8 mentioned. Of course, we have government, business, our
9 members of academia, and some specifically mentioned the
10 UCF technology incubator, the venture lab, the advisory
11 board council program and others. So for those of you
12 who were named, what do you feel of this initiative of
13 creating this Cleantech program manager that would help
14 to initiate some of the goals and objectives. So we'd
15 love to hear your thoughts, if you would, please, again,
16 step over to the microphone, announce your name and your
17 company and share with us your thoughts and ideas.

18 MR. LEWIS: Sort of a Jacques Chirazi clone.

19 MS. BITTMAN NEVILLE: We could try that.

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

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

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

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

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

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

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

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

4 MS. BITTMAN NEVILLE: Thank you.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1 County.

2 MS. BITTMAN NEVILLE: Thank you, Carol Ann.

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

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

8 MS. BITTMAN NEVILLE: Thank you.

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

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

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

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

14 MS. BITTMAN NEVILLE: Say that again.

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

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

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

13 So we'll move to idea No. 7.

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

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

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

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

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

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

1 city commission elected by an upheaval in the community
2 when an out of town developer controlled -- purchased
3 and optioned a thousand acres outside the city, out of
4 municipal services, and proposed a five-acre, what I
5 call, slash and burn development. It basically caused
6 an election that got rid of all the city commissioners,
7 all of the city staff, all of the -- from the city
8 manager down, and implemented progressive personnel in
9 those positions. And now is the time to implement this,
10 when building is slow, when development is slow, and the
11 building industry is generally in the plysistine
12 concerning anything sustainable. And, again, it's going
13 to take mandates to do this, but we have to be very
14 careful, because it's hard for a citizen, it's hard for
15 the community, it's hard for society as a whole to
16 compete financially with money self-interested parties,
17 and when the worm turns and land is now again worth
18 \$50,000 an acre, they will do whatever it takes to
19 change the law makers and change the laws. So I would
20 think it needs to be implemented with some super
21 majority type things to prevent it from being changed
22 once the worm turns again.

23 MS. BITTMAN NEVILLE: Good. Thank you.

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

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

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

5 MS. BITTMAN NEVILLE: Thank you.

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

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

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

23 All right.

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

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

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

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

4 MS. BITTMAN NEVILLE: Well, on this idea No. 8, the
5 question is: Cities, as she said, can benefit
6 tremendously by playing an active role in coordinating
7 Cleantech efforts among institutions. What a great
8 opportunity to get the maximum, as she quoted, bang for
9 the buck. And is this a good idea for UCF and Metro
10 Orlando. And, again, we know we have representation
11 from UCF and many from both the government and the
12 business sectors. So what are your thoughts on idea No.
13 8?

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

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

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

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

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

23 Going once. Just kidding.

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

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

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

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

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

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

21 The Strong Skilled Workforce, for instance, in
22 2005, they said that New York institutions awarded 2,419
23 science and engineering doctorates, along with 1,700
24 engineering, 2,700 computer sciences, 2,700 physical and
25 biological sciences, 675 mathematical degrees. It is a

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

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

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

17 See, sometimes the pregnant pause works.

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

1 MS. BITTMAN NEVILLE: And the city name again?

2 AMANDA: Destiny.

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

5 AMANDA: Yes.

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

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

10 Anyone else wish to comment?

11 Yes. Please. Come on down.

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

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

5 MS. BITTMAN NEVILLE: Good. Thank you.
6 Please.

7 MR. LAROE: Ken LaRoe. First Green Bank. A quick
8 comment on Destiny. I don't know a lot about them.
9 I've researched them some, I've met with the folks, the
10 principal players at Destiny. They've certainly got
11 some people on staff that their hearts are green. But
12 one needs to look further into the genesis of the
13 development. It is a DRI that was approved by the State
14 of Florida. It's huge. I don't remember the size,
15 27,000 acres, 48,000 acres. It's huge. Encompasses a
16 huge part of undeveloped Osceola County that some of
17 the, you know, premiere undeveloped eco systems in the
18 state of Florida. So just need to look very closely at
19 what the genesis of it is and the ability of them to get
20 a DRI for a project like that.

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

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

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

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

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

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

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

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

15 So we shall now hear our last idea.

16 MS. GRANJEAN: Idea No. 10.

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

1 an expedited permitting process 30 days instead of 100,
2 and a free design review which can cost from \$5,000 to
3 \$50,000.

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

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

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

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

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

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

11 MR. BRUDERLY: Madam Chairman, Dave Bruderly.

12 MS. BITTMAN NEVILLE: Yes.

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

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

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

7 Thank you.

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

9 Please.

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

1 sometimes actually choose to put three electrical
2 outlets versus four because you know that will save you,
3 and it's a spec home and you're not going to get that
4 money back. So if you're -- you know, from a builder,
5 if you're looking at little things that cost a dollar or
6 \$4 or things like that, and you're making decisions, and
7 then you look at, will you put a solar on the roof that
8 might be thousands or tens of thousands, it's not going
9 to happen. And the code will do that.

10 MS. BITTMAN NEVILLE: Thank you.

11 Please.

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

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

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

4 MS. BITTMAN NEVILLE: Thank you.
5 Please.

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

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

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

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

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

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

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

18 MS. HOPCRAFT: Okay. My name is Cynthia Hopcraft
19 with Eco Clean Solutions. And to break the pre-jitter
20 public speaking moments, I'm a native Orlandoan. I've
21 been in the telecommunications industry for 35 plus
22 years, and the product that I am promoting is called
23 Symbic Solutions, and the active ingredient in this
24 product is titanium dioxide. It is suspended as nano
25 particles of TiO2 in a proprietary solution, and is --

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

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

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

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

19 Any other questions?

20 MS. BITTMAN NEVILLE: Thank you.

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

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

1 you finance this stuff? Well, you finance a pool for
2 somebody or a home improvement, do a kitchen remodel,
3 you can't go take their granite countertops, you can't
4 take their pool if they stop paying, but we can
5 structure the documentation, I believe, with UCC
6 filings, and if somebody doesn't pay us, we can go send
7 a crew out and take the PV off the roof and resell the
8 darn thing. So I think we're going to be in the cutting
9 edge of that documentation legal/financial end of some
10 of the financing on this. Also, the Florida local
11 government energy retrofit program is something that I
12 think we'll be hearing more about. There is, I think,
13 10 certified retrofitters that have been approved by the
14 State. They have to be approved because when they go in
15 and do the audit, if the entity does not experience the
16 savings that they say they will experience, then they
17 have to make up the difference. And these are not
18 little, you know, small bit players, they're companies
19 like Johnson Controls, and we were looking at a couple
20 projects for some cities to do that. And for us, as a
21 bank, that's easy because we can easily underwrite a
22 city. We can easily underwrite a county. It's no
23 different than bond underwriting. And what they're
24 finding is that, not only will the savings usually pay
25 the loan back, but there is enough savings to pay the

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

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

9 Last two minutes, sir.

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

1 MS. BITTMAN NEVILLE: Thank you.

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

7 MR. LEWIS: Not quite.

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

13 MR. LEWIS: Nyda, thank you very much.

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

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

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

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

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

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

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

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

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

12 MS. BITTMAN NEVILLE: He left.

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

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

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

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

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

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

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

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

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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.)

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