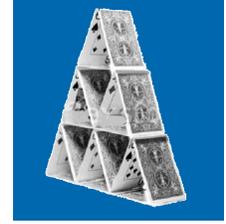




The 12th Annual Water Assembly  
June 14, 2008



## Subprime Water Crisis

### Perspectives Panel: Consequences of Impending Water Foreclosures

*Development—Bob Simon:* I'm an attorney here in Albuquerque. Some of you know me. I've been on the Water Assembly, and for eighteen or nineteen years, I was the corporate counsel for Westland Development Company, so I've been looking at water issues for a number of years.

*Agriculture—John Shipley:* I'm a retired farmer, living in the South Valley. I'm not native to New Mexico, I'm native to the Midwest, but I've been working on water issues and farmland preservation issues for about the last five years. I'm sorry not to see more people here today, because what we're talking about and what we're going to do affects everybody. Somebody needs to tell them.

*Environment—Michael Jensen:* I work for Amigos Bravos. I'm another immigrant, twenty years ago or so.

*Urban—Gabriel Nims:* I'm the Executive Director of 1000 Friends of New Mexico, and I've been there about two years. I'm homegrown—I grew up in downtown Albuquerque—and I'm glad to be here for the second year in a row. I'm pretty new to the water world. I'm learning a lot from all of you.

*Business—John Hooker:* I'm at the end of the road here. I'm an architect, and Director of Facilities and Capital Planning for Expo New Mexico. I've been involved in the Water Assembly for the past seven or eight years, and I'll be trying to provide a business perspective on water.

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*Bob Simon:* I talked to Elaine and Ed and they said it was okay to make a few comments. I guess each of us will make some comments and then we'll open it up to discussion and questions. I wanted to make a few comments about some of the information that's been provided today, and compare it to some of the research I've done and have been provided. I hope I'll be factually accurate—I'm always a little hazy on some of the exact facts, but I'll be as close to what I think are the facts as possible. You're sure welcome to correct me.

There was a comment by Tom Turney when he was State Engineer. My recollection, and it may even be John D'Antonio now who is saying this, that a 7-8% percent decrease in agricultural use will provide water for urban areas and municipal uses for the foreseeable future. As most of you

know, and we had it on the board this morning, 90% of our water usage is agricultural in our state, and 10% is urban, so a very small change in use or conservation by agriculture, if it moves to urban uses, can create a tremendous supply of additional water for urban and municipal uses.

I'm also on the NAIOP and Economic Forum water committee, and one of the things that we have been looking at is the lack of effective markets for water. That prevents the free flow of water to its highest and best use. As Jason was talking earlier, that was so obvious, because of the differential in the cost of water as it's applied to urban users. One of the things that I did a few years ago that wasn't made clear by Jason in his speech was an analysis of the relative economic efficiency of agricultural and rural uses versus urban uses. What I did was correlate the gross product, if we add up the dollars generated. We have a study in New Mexico that was available and I suspect still is, on the actual gross revenue or gross product produced in each county. When you correlate that with the water used in each county, which is available also, you can gain an understanding of the relative efficiency from an economic standpoint in the use of water. When you do that, and you compare Santa Fe and Albuquerque and Las Cruces to the rest of the state, you see that—mainly because many of the uses in rural areas are agricultural—there is about a fifteen-to-one efficiency factor of urban over rural. If you look at the dollars of revenue generated in rural areas, and then apply the amount of water used to those areas, the use of water or the product that is generated in the urban areas is about fifteen times greater. What that proves to me is that there is an inherent disequilibrium in the utility in the use of water between the rural areas and the urban areas. What that means to us if we are looking at these marginal costs of water that Jason was talking about, there has to be a mechanism for transferring that water from rural uses to urban uses. It *is* going to happen. If it takes a drought, if it takes increased urbanization, it will happen.

One of the things the development community is looking at is a mechanism to facilitate the easy flow of water to its highest and best use. There are, of course, the politics and laws and all the other things that go along with that that we would have to look at. But let me tell you now that Jason is right on: the marginal efficiency of water is what's going to drive the model, and it will flow uphill to money, if you want to be crude about it, because that is the fundamental economic reality of the world in which we live.

Now, that's not a bad thing. For example, what if we were to reward farmers who conserve water in their productive processes in agriculture with a water credit that they could transfer to someone through a water bank or a water exchange, who could utilize that water for some other purpose. Then we could have an efficient market that allows us to be more efficient in our use of water and increase the utility of that water and the productivity of that water throughout this entire economic system that we have. I suggest that that's a very viable model that could work.

Of course there have been discussions of increasing technologies and other obvious savings of water that are perhaps being developed at this time and are proposed. As Professor Thompson said, he looked at some of those, at the saline water and other uses such as the water that's produced with oil and gas. One of the things that I have been working on, and I'll just finish up sort of with this thought: I've been working with Bill Turner as his attorney on an application—and Bill is here today if you have any technical questions about it—on an application to harvest or salvage stormwaters that are in excess of the allocated waters that end up in the reservoirs of

New Mexico and evaporate. To give you a sense of the magnitude of the amount of water—and this is again an extension of Jason’s speech because if we’re talking about what are all the costs of water—one of the costs of water is evaporation. We lose it through evaporation. Bill has addressed that issue and asked, ‘What can we do? Is there available technology that we can call upon at this time to salvage that water?’ As most of you know, if we’re talking about available water, if we simply look at Elephant Butte Dam, one of our reservoirs of many, over a quarter of a million acre-feet a year evaporates from Elephant Butte Reservoir. As you all know, the City of Albuquerque uses only about 100,000 to 110,000 acre-feet of water. So if you could capture that 250,000 acre-feet, you could conceivably expand the potential usefulness or the availability of water by a factor of three.

That’s the kind of issue that Bill has been looking at, and his idea is to create viaducts or aqueducts along the sides of the valley to capture the spring storm runoff, or snowmelt, infiltrate it into these zones of water-bearing areas, and harvest it by drilling it out later. This would require us to move to a new paradigm, which is what I call the Dune Theory or the Dune Analogy, if you’re familiar with the Frank Hebert science fiction novel where the Freeman live in the desert, but underneath the desert there are these beautiful caverns of water that they have salvaged from the atmosphere and their bodies. So it’s a paradigm shift; everyone would have to go to the next level and store their water underground, but we could triple or quadruple our available water if we did that and have it available when we need it. Like Ms. Parker said, if we go back to the historic drought periods, we will be in a Dune syndrome, and we will have to store it underground, or die from lack of water, I guess.

*Audience member:* Do we have time for a question?

*Carl Moore:* Well the problem we’re going to run into is time.

*Audience member:* The thing is, if we pass one up, by the time we get to the end we’ve forgotten what the question was.

*Carl Moore:* All I can suggest is to write it down and at the break, that’ll be a good time to have an opportunity to... In fact, I’m going to give each of you [panel members] seven minutes for your opening remarks because time is tight.

*Bob Simon:* I’m going to say one more thing, if I may, and that is, when we look at when the Governor spoke about the Isleta situation, what we have and I think you’ll acknowledge that also, is that we have a successive history of capturing water and using it in ways that foster the growth in this southwestern region, from the original acequias or just taking water from the river, to the expansion of water projects and acequias and water districts and channelizing the river—these are all evolutionary processes in the use and utility of water.

*Audience member:* I just have one question, for clarity. I’m new at this; this is the first water meeting I’ve ever been to in my life. I just want to know what’s the difference—you said fifteen-to-one efficiency of urban over rural, and I don’t understand what—

*Bob Simon:* If you multiply—let me explain the math.

*Carl Moore:* One minute!

*Bob Simon:* When you divide the per capita average gross product per year in each county into that county's per capita water usage per year, you get a number and when you compare the resulting numbers, you can see the relative efficiencies of use of water.

For example, rural farming counties usually have high usage of water and lower gross product than urban areas. Let's say that water usage is 1000 a/f per year per person in a rural county and average gross product is \$2,000 per capita and that water usage is 500 a/f per year per person in an urban county and average gross product is \$15,000 per capita. Then the computation would be:

For rural;  $\$2,000/1000 \text{ a/f} = 2$

For urban;  $\$15,000/500 \text{ a/f} = 30$

The result is that urban efficiency of use of water as measured by gross product is 30/2 or 15 to 1. Urban use is 15 times more efficient as measured by dollars of gross product.

*Audience member:* But isn't 'rural' where agriculture—

*Bob Simon:* Yes, and the answer is this is relatively inefficient from an economic standpoint.

*John Shipley:* I've had enough of that! Exactly the thinking that he is expressing here is what's getting you four-dollar-a-gallon gasoline and five-dollar-a-loaf bread. He wants to turn your water into his money! This kind of crap needs to be exposed for what it is.

I should have warned you, I'm not only a retired farmer, I'm a retired minister, and if you want to know what kind, think Reverend Jeremiah Wright. Here's the deal: the water that he's talking about *he* doesn't own, do you?

*Bob Simon:* Well the question is, do you want to sell it?

*John Shipley:* Hell no! I have a better use for it than turning it over to Albuquerque for a bunch of knot heads to go out and water their posies. I grow food with my water. I want to express something to you about what's going on in agriculture. This is so new that nobody knows about it. There's a new farmer's co-op in the South Valley, called the South Valley Farmers Guild, and they have embarked on a venture of growing cereal grains for human consumption, as opposed to the other agricultural commodities that are grown for less value. Monday I'm going down to supervise the planting of an acre and a half of millet for a young farmer who has decided that he can make money and a career in farming if he does it the way that is smart. His [Bob Simon's?] contention that farmers waste water I will [?]. I know one that every week since irrigation season began—every single week—has watered his acre and a half. You know what he grows? Nothing! But he has water rights so he uses them that way. Does that need to be stopped? Absolutely! But I'll tell you what else needs to be stopped. I drive down the streets of Albuquerque every day and

so do these people sitting here, and I see water running down the culvert and the side of the street from sprinkler systems that are not managed. When that stops, then we'll stop the rest of it.

Water is Life. That's a saying among the native people in the State of New Mexico. Agua es Vida. What we have to do is to learn how to use this extremely valuable commodity in a way that benefits everybody, not the few who own stock in your company. There was a study done in the State of New Mexico not long ago, which is a secret to everybody in the state. Do you know what the study was? It was a study to determine what would happen if we begin to sell water on the commodities exchange like we do oats and wheat and that sort of thing. Why has this study never been released? Because the people with the money and the power intend to take the water and line their pockets with it, and leave you with nothing.

I'll close here with two different things. West mesa, 70,000 acres that SunCal and all the high-flyers in Albuquerque intend to develop—whatever in hell that is supposed to mean. Where is the water going to come from for 70,000 acres of development? At Mesa del Sol, they're talking about putting 50,000 [people on it?] Where is the water going to come from to support those 50,000 people? We're *already* using more water than we have. Everybody who has spoken here this morning has said that. I don't know what it takes to get through to people like you that this isn't going to work, but I'm here to tell you: you come after *my* water, you'd better come with more than what you had this morning.

*Audience member:* Excuse me--would you ask the speakers to address the audience and not each other?

*Carl Moore:* Thank you.

*Michael Jensen:* I remember the quote from Paul Samuelson, who is an economist and pretty mainstream. I thought of it during Jason's talk about this idea of sub-prime water. He [Samuelson] said, "The 'growth of the nation' is the greatest Ponzi scheme ever contrived." A Ponzi scheme is basically where you entice early investors and promise them a huge return, and you pay them that huge return by enticing more and more and later and later investors, and eventually it collapses, because you just can't generate enough to pay people what you promised to pay them. So this idea of continually providing growth by getting more and more and later and later investors to come in and fuel growth that is going to pay off the people who came here earlier is a problematic way to manage the nation, or a municipality, or whatever. That's just something that hit me as I was sitting up there listening.

I'm supposed to give the environmental perspective on the sub-prime water crisis. You know, what's happened to us—Amigos Bravos, who I work for, is twenty years old. We've dealt primarily with water quality issues. We generate strategic plans every few years, and we have very stringent criteria about what projects we're going to take on, or what we'll try to pass on to other people. In the last few years, that's just become increasingly problematic for us. We're not any bigger than we were a few years ago, and we don't have any more money than we did a few years ago—that's my responsibility, I take the blame for that since I'm the grant writer—but the problem for us is that people keep coming to ask us to deal with other things that have an impact on water. So we've been asked to start helping other organizations deal with agricultural issues;

we've been asked to help deal with the inability of Albuquerque to pass a realistic water conservation ordinance; we've been asked to get involved with water adjudications, which we refuse to get involved with. The list just gets bigger and bigger and bigger, and internally we've decided that we ourselves can't just be a water quality organization: we have to deal with water quantity issues now because water quantity issues *are* water quality issues. With less water you have higher water temperatures; you have increased toxic concentrations or nutrient concentrations, and those need to be dealt with.

#### What Is "Subprime"

- **Mortgages:** Underutilized and undervalued financial risk management tools in order to drive the housing market, leading to market bubble and collapse with short- to medium-term impact on economy
- **Water:** Underutilized and undervalued resource risk management tools in order to support growth, leading to overuse and quantity and quality declines with unknown – but likely serious – impacts on the economy

#### Moral Hazard

- *Insulation from risk leads to poor behavior*
- *Consequences are externalized*
- *Perverse incentives drive more activity than warranted*
- *Asymmetric information & the "principle-agent problem"*
- *Unintended consequences*

#### Environmental Perspective

- Water sources
- Conservation
- Quantity = Quality
- Regulation
- Water Energy Growth Food ... What is it you do?

I'll keep this very short. From the environmental perspective, the "sub-prime water crisis" has ramifications across every sector of the economy, the society, local cultures—it impacts everything. Another issue we've been asked to draw up something about: what's the connection between water and energy? How do you calculate those interconnections, the energy it takes to get water somewhere; the water it takes to produce energy, to get coal, to get nuclear versus doing wind or solar; water for food production... It's just completely impossible now to say, "We're only going to deal with water quality; that's our mandate and other people can deal with other things." We're not going to try to do it all ourselves, but what's really important is that alliances and coalitions and networks get formed, information can get shared across all of these different issues, including—I don't know if Gabe is going to talk about it—TIDDS. Some of you might not know what they are, but they have an incredible impact on water and the issue of where we're going to get water and what we're going to do with it.

*Gabriel Nims:* Thank you very much. I appreciate the invite from the Water Assembly. I will not get into TIDDS today. I don't want to bore the crowd—

*Audience member:* What are TIDDS?

*Gabriel Nims:* That would take up the bulk of my comments. The acronym is TIDD and it stands for Tax Increment Development Districts. It's a tool used by the development community to offset the cost of growth onto the taxpayer, essentially. I'm just going to leave it at that because we really are opening up a can of worms. It is definitely relevant to the issue of growth, urban growth, and how it's paid for, and how it affects our ability to live sustainably in this region and this state. It's a monster of an issue and if you want to learn more, you can go to our website: 1000Friends.org, and there's some great information on what that issue is all about.

There are some great kernels of truth in what Michael's bringing up—the interconnectedness of a lot of the issues that we're facing. The sub-prime lending crisis is a great metaphor that we can extend to the water predicament that we're in, but we can also extend that metaphor into a lot of areas, a lot of challenges that the American society and the global society are facing right now, especially if you want to look at climate change, and the way we're building and creating our communities. Those are things that are very unsustainable—a lot of house of cards around there. In fact, it's not even a house anymore. I'd call it a mansion, with many wings that are in danger of falling.

I'm here to talk about the urban impacts—the potential urban impacts—if our house of cards begins to fall, and I think they're great. What the gentleman to my far right over here (Bob Simon) is perhaps failing to account for when we talk about the 'highest and best use of water' is, one, the interconnectivity of our agricultural land to our urban places and that those are intrinsically and definitely must be together. Without the farm, we cannot have the city. If the highest and best use of water [doesn't] follow that logic, it means that we have this incredible megalopolis that we call Albuquerque-Santa Fe-Las Cruces with no food. That is not talked about in ways that we're really aware of. Just assuming that growth for the sake of growth is healthy for everybody is actually a very dangerous path for us to follow. It's what we've been following for a long time, and it's really led us to where we are now.

Our organization has been in the community for a long time—thirteen years now, and it's long advocated that we need to really shift that paradigm, that we need to really re-think in a lot of ways what does growth mean and how do we do it sustainably. The value of water is not necessarily how much money you can make off of it. What is the value of water for our heritage, for the cultures that have been here long before us? What is the value in water of not having to transport our food a thousand miles to the table, that we can actually go a few miles to the South Valley to agricultural properties that are emerging down there, which is really great work, where there's really a lot of new thinking about productive crops that can actually feed people instead of animals per se.

There's a lot of issues that we can discuss. I think some of the things that are on the horizon have been alluded to already: Mesa del Sol and SunCal, the largest developments in the entire nation, master-planned communities anywhere in the nation and we have to have two of them in our own backyard here? I sit on the Customer Advisory Committee for the Water Authority here in Albuquerque, and there's a lot of talk—there's a lot of talk everywhere but we really haven't

gotten to that issue of, “Okay, we’ve allowed the water, and it’s going to be paid for, in a paper sense, and I think we’ve talked about that in a lot of ways, but what really hasn’t been answered, the answer that *hasn’t* come to this committee is if the water is really out there? I keep bringing this up in this committee, when are we actually going to do the thinking about climate change? What’s ahead of us and how do we prepare for it now? Conci Bokum, the 1000 Friends Water Projects Director who works out of Santa Fe on a lot of water planning efforts around the state, and also with state water policy, really has been doing a lot of thinking about this notion of ‘adaptation and mitigation’ with regard to climate change and the impact of climate change on water availability. It’s a really interesting thing and I hope we’re going to get some good reports and white papers out that can expand on this notion, but 1000 Friends is talking about how do we mitigate the affects of climate change through reducing emissions? How do we drive less, putting less fuel into the air? How do we create our communities so that they’re energy efficient? And there’s this other notion of how do we adapt to the reality that we’re going to be facing in decades of prolonged drought? How do we ensure that those most vulnerable in our community are not the ones that are going to feel the full brunt of this new [valley?] that we’re going to have to live in?

So mitigation and adaptation—adaptation sounds like a good word, but there are a lot of bad things with adaptation—a lot of bad things can occur when we’re forced to adapt to new realities, and usually it folks in our communities that are moist vulnerable that feel the full brunt of the need to adapt. So if we don’t do this carefully, we’re in a lot of trouble. I’ll leave it at that.

*John Hooker:* I’ll try and play off what everyone else has already said about water and its role in New Mexico. From a business perspective—and I’ll say right up front there’s not just one business perspective, because business represents everything from the farmer who grows alfalfa to the attorney who is breeding race horses; to Intel and Eclipse to Kirtland Air Force Base; engineering firms, architects, and university professors. Business is people who do things to make money and generate economic activity here. But from a business perspective, what is needed is, in a sense, consistency, reliability, predictability, and we look at it as the total cost of doing business. We have first to assume that from a business perspective there’s going to be water, and that there’ll be enough for us to do what we do, whether it’s manufacturing chips, running sinks in our restrooms, washing down the produce at the grocery store—you know, that there’s going to be water. So the question is, how much do I have to pay for it for my day-to-day operations?

As part of that, though, I’m also looking at the cost of energy, because the two are becoming more closely entwined. You know, we save water in Albuquerque because we can generate electricity up in the Farmington area to run air conditioners here rather than running evaporative coolers and using our water. We save water here because we import produce from Guatemala, and roses from South America, while they use the water down there to grow these plants. So we’re buying water from somebody else. If we start commodotizing water and saying “the water in Albuquerque is the same as water in Oklahoma, the same as water in Chicago and New York,” it’s going to be hard for us to compete because we don’t have a lot of other natural advantages here. If we don’t want to grow food in New Mexico, we’re going to have to bring it from someplace else. If we can’t afford to ship the food from Texas or California or Mexico to Albuquerque, then we’re probably going to look for work someplace else.

So we're facing some real challenges. Another [?] of the business perspective is quality of life. I want to hire employees here. They're going to come to New Mexico because there's a job and because they like living here. If we say we're not going to raise horses here anymore, we're not going to grow alfalfa, we're going to build chips and airplanes and we'll buy our lettuce from Texas, that's a different quality of life than what we are today, a different heritage. Are we willing to give that up to become something new in this new era of limits?

I have to agree with almost everything everyone else has said already. Business relies on other people to solve the problem. You know, they can charge me more for water and I'll use less water, but I expect them to make the decisions politically, structurally, that ensure that the water will continue to be here, and continue to support what we do. If *they* don't do that, then business will leave, or fail. So we're part of the solution and part of the problem, but we're relying on somebody else to make the choices for us as business people. I hope that helps the discussion here.

*Carl Moore:* Let's take five minutes for questions from the audience. Let's have a standard of brief questions and brief answers.

*Elizabeth Chestnut:* A couple of days ago I had a conversation with D.L. Sanders at the Winters Doctrine conference about Pueblo water, which by the way has never been quantified in the Middle Rio Grande area. And I also heard—this was not D.L. speaking—that if you took only one Pueblo's worth of water, and it's guaranteed by federal, state and other means (there are four different supports for Pueblo water) and it's farming water by and large, but it's also water for domestic use and other survival needs, some of which are semi-industrial, meaning gambling—okay, if you just took one Pueblo's worth of water, there would not be enough water here for anyone. Now if the Pueblos are going to get the water they're due -- and there are six of them in the Middle Rio Grande area --and this was what D.L. Sanders said--, and this is 7% or 8% -- there isn't enough water to do Mesa del Sol *and* Rio Rancho or SunCal. There isn't enough water.

*Bob Simon:* I think you're quoting D'Antonio...

*Elizabeth Chestnut:* I'm quoting D. L. who works for D'Antonio. You might be able to do one of them, but you can't do all. It's not possible.

*Bob Simon:* Well again, my response to that is what if we go to the new paradigm that Bill Turner is talking about and we salvage three or four hundred thousand acre-feet of water? I mean, you are not expanding the scope of your thinking about what is available water.

*Elizabeth Chestnut:* I'm not sure about that. I've sat in on a lot of water discussions and I go back to what Gabriel said about quality of life. When I go down to El Paso and I look at what's happened, everything's all paved over—that is not quality of life.

*Bob Simon:* Well are you suggesting we should not consider eliminating the evaporation of water from our reservoirs?

*Elizabeth Chestnut:* Well, how you do that effectively I don't know, and I don't see it happening within the next forty years, at which point, would be a little too late. I really have to say there has not been consideration, equal consideration of how all these things are related to each other, every factor of growth in this town. I thought Albuquerque was just fine at about 400,000. That's just an opinion, and when John Hooker says the decisions will be made by others about how water is made available to business, and how business is done, development for the sake of development, simply putting in more houses, is not the solution.

*John Shipley:* If I can respond to that briefly—the west mesa, Mesa del Sol, Rio Rancho all pose eminent threats to the existence of growing even a single tomato in the South Valley. Why anybody in the political arena is seriously talking about it and why anybody in the business arena is seriously talking about this is a mystery to me. There isn't enough water, folks. Now I like Bill Turner. He and I sat down and shot the crap before the meeting. But when he's talking about capturing all this [water that's] evaporating? Bullroar! (Sorry, Bill.)

*John Brown:* You all keyed off of an idea that the criterion, somehow the sole criterion by which we should measure value is economic efficiency, and some (Bob) supported that, and everyone else argued against that criterion. The validity of that criterion depends on the measurability of the other values that you're associating with the uses of water, and my contention would be that the most important things are very hard to monetize.

*Bob Simon:* Let me just say one thing, and it'll be a little bit of an advertisement.

*Carl Moore:* Let him finish his question.

*John Brown:* It was going to be a question, but you go ahead...

*Bob Simon:* I just wanted to tell you that my girlfriend has a facility in Los Lunas called the Center for Ageless Living, and next Friday night, the 20<sup>th</sup> at the Center, she is going to have a Midsummer Night Meal that will feature the foods and wines grown within a hundred mile radius of Los Lunas. So we are doing exactly what Mr. Shipley is saying: we're creating a menu of gourmet dishes. It's a forty-dollar meal. There will be organic chicken; locally raised beef; beet salad; locally produced goat cheese; locally produced wines, both red and white; and desert made by Marie Pohl on her original waffle machine from the 1963 World's Fair...

*John Brown:* And your point is, in response to my question?

*Bob Simon:* I think what I'm saying is that we all have free choice. If a farmer wants to farm his land and use his water, he can. If a farmer—we should have a system that allows for a farmer to not have to flood his acreage and not produce a crop to perpetuate his water rights. He should be given the opportunity to lease those rights or to sell them to somebody who can use them.

*Audience member:* How many of you heard about T. Boone Pickens buying water rights with the theory that you can get along without oil, but you can't live without water? He's building a nine-

foot diameter pipeline from Oklahoma to Dallas. Nine-foot diameter—you can drive two cars, one on top of the other—

*Carl Moore:* He's also investing nine billion dollars in a wind farm... This is an oil man who is [?] a wind farm... Let's thank the panel.