

LESTERBROWN
Lester Brown

July 13, 2006
11:00 am CT

Conference Coordinator: To all participants on hold, we are currently checking in additional participants. We would appreciate your patience and please continue to standby.

Please standby, your conference is about to begin.

Jeremy Ben-Ami: Good afternoon. This is Jeremy Ben-Ami from Fenton Communications, and thank you for joining us on our conference call today with Lester Brown of the Earth Policy Institute.

Lester Brown will provide some opening remarks about a new analysis that he's releasing today concerning the implications of the biofuel boom.

At the end of that presentation, we'll be taking questions from the press which will be moderated electronically, and instructions will be given after the presentation.

Our teleconference today is being recorded and a transcript and an audiotape will be available for those who are interested. For anybody who has follow-up questions, please feel free to call us at Fenton Communications at 202-822-5200 to be put in touch with Lester Brown.

A quick introduction of our featured speaker today: Lester Brown is President of the Earth Policy Institute, which is a nonprofit interdisciplinary research organization in Washington DC, which he founded in 2001.

Brown has been described as "*one of the world's most influential thinkers*" by the Washington Post, and some have called him the "*guru of the environmental movement.*"

About 30 years ago, Brown helped pioneer the concept of environmentally sustainable development, a concept which he still uses in his design of an *eco-economy*.

He was the Founder and President of the Worldwatch Institute during its first 26 years. And during a career that started with tomato farming he's authored or co-authored many books and been awarded over 23 honorary degrees.

His most recent book is *Plan B 2.0: Rescuing a Planet under Stress and a Civilization in Trouble*. And much of the analysis that we will be hearing today can be found in greater depth in the book, which I urge all of you to download from the Earth Policy Web site.

Lester Brown is also a MacArthur Fellow and a recipient of countless prizes and awards including the 1987 UN Environment Prize, the 1989 Worldwide Fund for Nature Gold Medal, and the 1994 Blue Planet Prize for exceptional contributions to solving global environmental problems.

With that introduction, let me turn it over at this point to Lester, and as I said we will take questions after the initial presentation.

Lester Brown: Thanks, Jeremy, and thanks to everyone for participating.

A couple of months ago, I was looking at the USDA world crop estimate, and a couple of numbers jumped out at me. One was that the increase in world grain consumption this year is estimated at 20 million tons.

And then I came across another number, which said that the growth in the use of grain for ethanol production in the United States would be 14 million tons.

What this means is that two thirds of the growth in world grain consumption this year will be accounted for by fuel for automobiles in the United States, leaving only 6 million tons to cover additional world food needs.

Based on the commitments to build new ethanol distilleries, next year is probably going to be roughly the same.

One of the things we've tried to do in looking at this emerging competition between cars and people is to bring it down to the personal level.

I calculated just a few days ago the amount of grain it takes to fill a 25-gallon SUV tank with ethanol.

And it turns out that the grain required to fill that tank once is enough to feed one person for a year, or if you think of it in annual terms, if you fill that tank every two weeks, then the grain required to run the SUV could also feed 26 people.

What we're now seeing, largely because of the runaway price of oil and heavy subsidies for biofuels in some countries, particularly in the United States, is an explosion in investment in this field. I'll come back to that in a bit more detail.

What's become clear is that everything we eat can be converted into ethanol or biodiesel, whether it's wheat, corn, rice, soybean, or sugarcane... you name it.

And as a result, the lines between the food economy and the energy economy, which used to be fairly distinct, is now becoming blurred. And it's difficult to tell when one stops and the other begins.

But in this new world, in this new economy, the price of oil is in effect becoming a support price for agricultural commodities. Whenever the food value of a commodity drops below the fuel value, the market will move that commodity into the energy economy.

This is an entirely new situation that we're facing at least on this scale.

In the State of South Dakota for example, currently half of all the corn grown is going into ethanol distilleries.

In Iowa, if all the plants now under construction and in the planning stages are completed, ethanol distilleries will absorb the entire corn harvest.

Nationally, one-sixth of the US grain harvest is now going into ethanol distilleries. This is one reason why the US along with Brazil are the world's two leaders in biofuel production, each producing over 4 billion gallons last year.

Brazil uses sugarcane as the feedstock. The US uses almost entirely corn. Brazil is the world's largest sugar producer and the leading world exporter of sugar.

But half of its crop is now going into ethanol for its cars and this is one of the reasons why the price of sugar has doubled over the past 15 months or so and why it's at the highest level in 25 years.

The other major area of biofuel production is Europe, which is producing about 1.6 billion gallons, 860 million of that is biodiesel and 700 is ethanol.

In Europe, the margarine producers are now complaining. In fact they've taken their concerns to the European Parliament, because they're having difficulty getting enough vegetable oil for margarine because the heavily subsidized biodiesel refineries are soaking up so much of it.

The other area in which biofuel is beginning to gain momentum is Asia. India has a number of small of sugar ethanol refineries in production. China converted a couple million tons of grain into ethanol last year and this year's production will probably be somewhat higher.

The Thais are producing ethanol from cassava, but the two big ones in terms of future growth are probably going to be Malaysia and Indonesia, both relying heavily on palm oil to produce biodiesel.

Just over a year ago, Malaysia launched its palm oil refinery program and since then they have issued 32 licenses for plants. There's just an enormous commercial interest in this.

And they've had to put a hold on new licenses, while they assess the supply and see how much they're going to have because it's clear, if all these newly licensed plants come online quickly, that they'll be facing supply problems, and will not be able to supply the countries that normally import from them.

The exploding investment in this field can be seen in Brazil for example, where, according to the last number I saw, some \$5 billion have been committed to investment in sugar mills and ethanol distilleries.

In this country, ADM, the largest ethanol producer, has recently doubled its investment budget for next year, with most of that going into ethanol distilleries.

And capital is coming into this field now from many different sources, from Bill Gates to Morgan Stanley to corn growers. Close to half of the ethanol distilleries in this country are owned by corn growers who have organized to use their own corn to produce ethanol.

One of the other effects other than food prices is that corn-importing countries are getting concerned. The US totally dominates world corn exports, supplying 70 percent of all the corn going into world trade.

So countries like Japan, South Korea, Egypt, and Mexico that are heavily dependent on US corn are beginning to worry about where this is going to go.

Feeders are also concerned, whether it's feedlots, or pork and poultry producers, or dairies. Everyone's concerned about the future feed supply given the extraordinary growth in the amount of corn going into ethanol.

What this is shaping up as at the global level is competition between the 800 million people who own automobiles and the 2 billion low-income people in

the world, many of whom are already spending over half their income on food. So if we were to get a doubling of grain prices comparable to the doubling of sugar prices over the last year or so, there could be a real scramble, not only among sectors, but also among countries, for available grain supplies.

In looking at the competition between cars and people, the average income of people who own cars in the world is probably something like \$30,000, whereas the average income of the 2 billion poorest in the world, using Africa and India as a base for estimating this, is less than \$3,000 a year.

So the ratio in terms of income and purchasing power between motorists who want to maintain their mobility and low-income consumers who want to get enough food to maintain themselves is sort of uneven in economic terms.

In effect what we have is 800 million motorists wanting to maintain their mobility and 2 billion low-income people trying to survive. And for this group, a dramatic rise in grain prices would be -- for many of them -- life threatening.

The broader risk is that if we do get a substantial rise in grain prices, it could create political instability, particularly in lower-income countries that import grain, and that political instability could disrupt global economic progress.

It is the responsibility of governments to provide food security. If they can't provide that then they tend to lose their legitimacy, and we could see the number of failed states grow even faster.

And then the interesting question becomes how many failed states do we have to have before we have a breakdown of civilization overall?

One of the difficulties with the food versus fuel issue is that there's no international mechanism to manage it. FAO, the UN Food and Agricultural Organization, is charged with providing technical assistance and running the World Food Program, which is a food aid program, but they don't have the authority or even the experience to manage or to mediate this competition between cars and people for agricultural commodities.

In effect no one is in charge. No one is looking at the full scale of investment and monitoring it to see how it's going to affect the demand for agricultural commodities for biofuel production.

There are various tabulations but things are moving so fast and on so many fronts, that I don't think anyone is actually on top of everything.

One of the things that we also have to keep in mind is that this additional growth in demand for grain and other farm commodities is coming at a time when world grain stocks are the lowest level in 34 years, and water resources are becoming increasingly scarce. Water tables are now falling in countries that contain half of the world's people. And then of course there is the instability of climate. As temperatures rise we're facing accelerating climate change.

Another way of looking at this in the US in particular, where we have substantial subsidies both for ethanol and biodiesel, 51 cents a gallon for ethanol and I think it's \$1 a gallon for biodiesel, is that in effect taxpayers may be subsidizing a rise in their food prices. And I don't think we've yet quite come to terms with this possibility.

Some have suggested that maybe we should be setting priorities for the use of grain in the US. In fact I think the CEO at Cargill raised this question the other day and said, we know we need priorities, food should be first, feed should be second, and fuel should third.

And I think that is the right ranking, but right now the market is deciding how to allocate commodities among these uses, not any established policy except in so far as subsidies favor the use of agricultural commodities for biofuel.

There are also alternatives to biofuel. One is a very simple: if we raised automotive fuel efficiency standards by say 20 percent, that would save more fuel than we're ever likely to get from agricultural commodities.

Another possibility, and this is longer term, is investing more in public transportation. If we're looking at fuel sources in particular, there are options there as well.

One possibility that's getting a lot more attention and support now is the gas-electric hybrids with a plug-in capacity.

If we in this country over the next decade were to decide to systematically move to gas-electric hybrids, we could cut gasoline use almost in half. And then if we combine that with plug-ins and an extra storage battery, so we could do our short-distance driving with electricity, we could fuel our cars largely with electricity.

If, at the same time we're shifting to plug-in hybrids, we were to invest not in hundreds of wind farms as we now are, but in thousands, that would feed cheap electricity into the grid. Then we'd be running our cars largely on wind energy. We have more than enough harnessable wind energy to do that.

So there are exciting options to continuing on the biofuel path, to the point where we create a manageable competition between motorists and low-income food consumers in the world.

Jeremy, I think with that we've raised enough questions to keep us going for a while.

Jeremy Ben-Ami: Great. Thank you very much, Lester.

I just want to tell everyone on the call that the full analysis is available on the Earth Policy Web site at earthpolicy.org. It's on the home page on the right side and you can just click to the "Supermarkets and Service Stations Now Competing for Grain" link and that will be the full report.

We'll also be sending out a blast email with the report to the entire press list that received the advisory.

At this point, I would like to open it up for questions and, Sonny, if you're on, could you please give us instructions on how questions will be queued up.

Conference Coordinator: Sure. At this time, if you'd like to ask a question, please press the star and 1 on your touchtone phone.

You may withdraw your question at anytime by pressing the pound key.

Once again, to ask a question, please press the star and 1 on your touchtone phone.

We will now pause for questions to queue.

We will take our first question from the site of Mike Lafferty from Columbus Dispatch.

Please go ahead.

Mike Lafferty: Mr. Brown, Mike Lafferty from the *Columbus Dispatch* in Columbus, Ohio.

Farmers got into ethanol to boost low commodity prices and that's the way they still see it.

They're always complaining about not making enough money and that's their problem with grain. How do you balance what you're saying here with their requirement to make money and hold on to their land?

Lester Brown: Good question. Having once been a farmer myself, I can relate to that.

I suppose the purpose of the farm programs with the support prices for commodities was to provide that security for farmers. But the real question is how to provide adequate prices for farmers not only in the United States, but in developing countries as well, but do it in a way that is not economically disruptive and socially risky as is our heavy continuing investment in biofuels.

Mike Lafferty: So what do you tell a farmer who says, "Look, I'm getting \$2.50 for my grain, and that's what I got 20 years ago."?

In the meantime costs are more, equipment costs are more, fertilizer costs are more, and farmers generally feel that they're in a situation in which they have to increase their per-acre yields, in essence raising more and more of a crop that isn't worth anymore than it was 20 years ago.

Lester Brown: The need to provide stability in terms of farm income in rural communities is real. And the question is how to do that.

We have been relying for the last past century or so on a system of support prices, and it seems to have worked reasonably well, though at times there have been gaps in that safety net. And I don't have any simple solution.

The initial idea of producing crop-based fuels for cars was not necessarily a bad one. The question is how far do we go down that road and how do we deal with the competition that's emerging at the global level between affluent motorists who can use enough grain to feed 10 or 20 people for example just to run their cars?

So this is a fairly broad-based question and it certainly affects farmers, but it goes far beyond the farmers. It has to do with energy policy, it has to do with development policy, as well as farm policy.

Mike Lafferty: Thanks a lot.

Conference Coordinator: We will take our next question from the site of Steven Mufson with Washington Post.

Please go ahead.

Steven Mufson: Hi, Lester.

Lester Brown: Hi, Steve.

Steven Mufson: So I was just wondering what you think should actually be done about it. Because the chances of, you know, there really being a coordinating authority to balance food versus the fuel demand seems unlikely.

You mentioned the subsidies for ethanol and biofuel, do you think we should remove those or should there be some other adjustment in ag policy?

And also, how do you see supplies responding to these higher prices? I mean, as we know, the oil industry, is terribly cyclical. We get a lot of supply response, albeit a bit delayed, from high prices. What do you see happening in that sort of area in grain?

Lester Brown: I think that was four questions, Steve.

Steven Mufson: Sorry. Well, mostly two basically, I guess.

Lester Brown: Okay.

Steven Mufson: Since you don't see a coordinating authority, what are more doable solutions and two, what do you see is the supply response?

Lester Brown: It's interesting to see what the Malaysians have done. I mean they've hardly started to build their biodiesel refineries, but they've got 34 [sic] of them licensed now. And someone said wait a minute, we may have a supply problem here.

And I think they're quite right. Because you can build plants much faster than you can clear land and establish additional palm oil plantations.

So what they've done is simply for the time being put a moratorium on licensing new plants. It may already be too late to avoid a substantial rise in world palm oil prices and it might follow the sugar example.

But the supply question I think is probably not going to be satisfied with food or feed crops. I don't know if you saw the Minnesota study that was published in the Proceedings of the National Academy of Sciences here in Washington.

There's been an advance release just in the last couple of days. But they basically, and I think there were five analysts working on this, point out that food-based fuels is simply not a winner.

And that in a world where we're looking at another 3 billion people, where there are probably 4 billion people, maybe 5 billion now trying to move up the food chain, which means consuming more grain-based livestock products and

so forth, and to add to that, a third major source of demand, one that's growing even faster than either those, this is probably not going to work.

And the sooner we recognize that, the better.

Now, I don't know exactly what authority the federal government has in this country on licensing. I think most of the licensing is done at the state level. And in some of the states now, some of the Corn Belt states, particularly in the western Corn Belt, where there are so many distilleries being built, they are becoming worried about whether they can maintain a lot of their farm feeding operations.

But the Minnesota study -- and I would essentially agree with it -- points out that probably the best way to think about biofuels in the future is to think of those that will grow on marginal land that's not suited to grow food crops, and to choose biofuel crops that do not require heavy input, fertilizer or irrigation water or what have you.

And that means, probably things like switchgrass, that can be grown on marginal land.

So I think there is a role, unquestionably, for biofuels in the future, but I don't think it's going to be in converting food commodities into automotive fuel.

Steven Mufson: Presumably those marginal lands though are probably harder to harvest and things like that, or you'll get lower yields and just reduce the whole role of this sector even more.

Lester Brown: There is a fair amount of CRP lands that could be used to produce switchgrass, which is a perennial grass.

Steven Mufson: CRP is, I'm sorry?

Lester Brown: Conservation Reserve Program.

Steven Mufson: Uh-huh.

Lester Brown: We've got about 35 million or so acres. About a tenth of our cropland base is being held out of production on long-term contracts.

Farmers have to plant that land either in grass or trees and that is one place to look for some acreage that could be used to produce biofuels.

Steven Mufson: Uh-huh.

Lester Brown: But it is not our most productive land, but maybe in this case it doesn't have to be.

Conference Coordinator: We will take our next question from the site of David Pitt with Associated Press.

Please go ahead.

David Pitt: Yes, sir. The question I have is that I know most of the grain that we grow in Iowa for ethanol is field corn, that is not used for food and primarily used for livestock feed. And livestock typically I guess don't need the starch from the grain.

Once it's used in the distillation process, the distiller's grain is used to feed the livestock.

So I guess I'm wondering - I don't see where we're losing so much feed or food grain by using this type of corn, particularly corn for ethanol. Maybe you can explain that to me.

Lester Brown: We do need energy in feeding cattle. The fiber and the protein in the corn that's left do make good feed. But we need energy as well, and that has to come from some place.

I remember as a youngster on a dairy farm in Southern New Jersey we used to have twice a week, a huge truck coming down from a Philadelphia brewery unloading wet brewer's grain fresh from the beer breweries there.

And we always had to add some whole corn to that ground corn meal in order to sustain milk production.

So you do have to get the energy in that feed mix one way or another and you're quite right, the distilling for alcohol basically takes the energy out. It doesn't take the fiber and most of the protein.

One of the problems we run into is a logistical one, because if you want to feed distillers grain then you have to have a place to feed it or you have to transport it some distance.

In the US, most of the feed lots are in the southern half of the Great Plains, but most of the corn is in the Corn Belt. So there's a geographic mismatch there in terms of location and supply.

Conference Coordinator: We will take our next question from the site of Alan Ohnsman with Bloomberg News.

Please go ahead.

Alan Ohnsman: Yes, Mr. Brown, Alan Ohnsman of Bloomberg.

I dialed in about 2 minutes after the start, so I may have missed this point. I was just curious if you were advocating rather than grain-based ethanol, are you more in favor of switchgrass, you know, waste agricultural material uses, things other than grains primarily as the base for different biofuel?

Lester Brown: The answer is yes.

With crop residues we have to be a little careful because if we remove grain and the straw or the corn stalks as in the case of corn, then over time the organic matter content of the soil will decline and with that decline will come a decline in fertility.

So the crop residues are not a blank check. But something like switchgrass which is [a perennial] crop so you don't have to plow the land each year, can be grown on land that's more sloping than you normally would farm or land that's a bit drier.

I think there's a definite future for things like switchgrass and maybe fast-growing hybrid poplars for example, going to biofuels. Definitely a possibility there.

But the future probably lies with that rather than the current crop-based feed stuffs.

Conference Coordinator: Once again I would like to remind the participants that you can ask a question by pressing star and 1 on your touchtone phone.

And to remove yourself from the queue, you may use the pound key.

We will take our next question from the site of (Peter Rhode) with (Energy Washington).

Please go ahead.

(Peter Rhode): Hi Lester, (Peter Rhode) with (Energy Washington). Couple of quick questions and one slightly longer one.

You say one-sixth of the grain is used to make energy fuels. Are you talking all grains or just corn?

Lester Brown: All grain.

(Peter Rhode): So rice, barley, the whole...

Lester Brown: Right.

(Peter Rhode): ...the whole gamut.

Lester Brown: But keep in mind that corn is the overwhelming share of that.

Nationally, we produce about 280 million tons of corn, but our total grain harvest is only maybe 360 million tons. So corn really looms very large.

(Peter Rhode): Right. Right.

Now, you say that it's a direct competition between energy and food crops. Now do you think there's any moderation in oil prices from these alternative fuels that do have some benefits for the lower income?

Lester Brown: It's difficult to say because if the supply of oil is limited then we don't have a free market situation. There has not been much evidence -- at least to date -- that the dramatic increase in ethanol production, which is still in the 3 percent of our total automotive fuel use, that it's had much effect on oil prices or gasoline prices.

And I rather doubt that it ever will have very much effect. I think the principal effect on oil and gas prices is going to be how much we can expand production of oil and I'm inclined to think that we're probably not going to expand it very much.

And if that's the case and demand keeps growing, that's going to be the principal determinant of oil and gasoline prices. And I think biofuels will appear rather small compared with these larger, more cosmic sorts of forces.

(Peter Rhode): Do you see any technologies outside of the traditional fermentation processes that could make this discussion more moot?

Lester Brown: I don't. And it's interesting in the use of cellulosic materials like switchgrass or wood chips or what have you, that there are several different technologies now being worked on and tested and so forth and no one has actually surfaced as the one, and maybe there never will be a single one.

We are now seeing the first commercial scale plant being built. I think it's by (Logen) in Idaho and I think it's going to have a 40-million-gallon capacity

and it's going to use barley straw. And I think already the plant managers are contracting with farmers in a large area of Idaho to get their barley straw.

So I don't see any technologies beyond that. I did mention the idea of plug-in hybrids combined with wind energy as an entirely new sort of alternative to the use of liquid fuels in automobiles.

And I think this has a lot of potential and there're more and more people now who see this as the likely solution to our future. And because we have so much wind energy and it's so cheap, it probably doesn't make sense to push the agricultural envelope too far, that is in terms of overplowing, erosion, and too many pollutants from the heavy use of fertilizer.

Conference Coordinator: Once again if you would like to ask a question, please press the star and 1 on your touchtone phone.

We will take our next question from the site of Brett Hulsey with Better Environmental Solutions.

Please go ahead.

Brett Hulsey: Hi, Lester.

You sort of touched on this briefly, but address the quality of the food corn that comes out of an ethanol plant. For instance one potential plant we're looking at here in Wisconsin is providing food for famine relief right now and they're going to use the ethanol production to actually expand their production of food for famine relief.

They're going to split the germ of the corn from the starch and so they're going to actually use this as a way to feed more people rather than less.

Lester Brown: That is an interesting approach. I think the yield, if you're limited to the germ in the corn, is relatively small, but that's one way of extracting a nutritionally valuable part of the corn kernel for food use.

Brett Hulsey: And a follow-up on CO₂, you mentioned the instability for global warming. USDA DOE estimates ethanol reduces CO₂ by up to 29 percent and the current ethanol program is probably our most successful program in reducing global warming gases from transportation.

I mean your solutions like CAFE standards are worthy, but I think when Congress voted on that a couple of years ago, it got 33 votes in the Senate. I mean isn't ethanol a realistic way of reducing greenhouse gasses in the short term?

Lester Brown: The reduction in greenhouse gases according to the study just published in the proceedings of the National Academy of Sciences says that biofuels are reducing greenhouse gas emissions by about 12 percent. And that's for ethanol. And that's not very much given the 70 percent reduction in global CO₂ emissions that scientists say we need to stabilize climate.

I think we're going to have to begin thinking big time in terms of reducing carbon emissions. And that 12 percent is if we went entirely to biofuels based largely on corn, which we're obviously not going to be able to do. But if you could, that would only get you a 12 percent reduction.

Brett Hulsey: But it is something compared...

Lester Brown: Right. But if it's diverting our attention from a serious solution and if we're already at a point where we probably can't go much further without disrupting food supplies, then probably it's time to think about some of the alternatives.

And the exciting thing about the plug-in hybrid alternative is you can cut carbon emissions. Especially if you use wind energy you can cut carbon emissions by, you know, 60, 70, 80 percent.

Conference Coordinator: We will take our next question from the site of Mike Lafferty with Columbus Dispatch.

Please go ahead.

Mike Lafferty: Lester, is there actually enough land to depend on corn as a viable ethanol source?

Can we grow enough corn to fuel the country?

Lester Brown: The National Academy of Sciences -- a study I referred to earlier -- says if we use all the corn and soybeans in the United States for biofuels, it would cover only 12 percent of the gasoline demand and 6 percent of the diesel demand.

So I guess the answer to that is no.

Conference Coordinator: We will take our last question from the site of Alan Ohnsman with Bloomberg News.

Alan Ohnsman: Mr. Brown, General Motors back in February, you, no doubt are aware of their Live Green Go Yellow E-85 capable vehicle campaign. GM, Ford, Chrysler last month all got together and said we're going to produce 2 million

biofuel or E-85 capable vehicles by 2010 and save this very, very upbeat sunny presentation of the benefits of E-85 fuel.

Is this ill-advised? I mean, do you think they're misleading the public or not being entirely honest about perhaps some of the issues related to rapid growth in the use of E-85?

Lester Brown: I think at best it's ill-advised. And I think it's based on the idea that we're going to be able to produce huge amounts of crop-based automotive fuel. And I'm not sure we are.

And if we end up investing in a lot of cars, and they do cost a bit more to make them into flex-fuel vehicles, not a lot more but they cost somewhat more, it might be a somewhat wasteful use of resources.

And I was disappointed when at the same time that the Big 3 are going to do more with flex-fuel cars that they're also going to be doing less with hybrids.

I think hybrids are where the game is going to be won or lost, not with flex-fuel cars.

Jeremy Ben-Ami: At this point, let me say thank you very much to all of the folks who have called in to hear today's teleconference. Again the Web site where you can get the full analysis by Earth Policy Institute is earthpolicy.org.

And for any follow-up questions or further information, please feel free to contact either Fenton Communications at 202-822-5200 or the Earth Policy Institute at 202-496-9290.

Thank you again for participating in today's call and we look forward to having you on a future call as we continue this series of briefings based on Lester Brown's book, *Plan B 2.0*.

Take care. Bye-bye.

Conference Coordinator: This concludes your teleconference for today. Thank you for your participation and you may disconnect at this time.

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