

Glover Park Group

Moderator: Ryan Cunningham
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Ryan Cunningham: Hello everyone. We just wanted to get the call started. I wanted to welcome folks to the Earth Day Foe Biofuels Teleconference. My name is Ryan Cunningham. I just wanted to do a short introduction, introduce our panelists, talk briefly through how this call is going to work and then hand it over to our speakers. At the end of the call, there will be a Q&A period.

We've convened this call because the impact of food-to-fuel mandates on food prices and the environment has received unprecedented attention in recent weeks. In particular, new studies have raised very serious questions about the impact on the environment of these food-to-fuel mandates including studies on the impacts on the earth's climate. In addition, other studies have raised concerns about the impacts of ongoing food-to-fuel mandates on water quality in the Gulf of Mexico and in the Chesapeake Bay, on water availability in the western United States, on wildlife habitats and on air quality. We invited you here because with Earth Day approaching, the Grocery Manufacturers Association wanted to make these three experts available to you to discuss the issue and take your questions.

On our call today, we will have Lester Brown. He is the Founder and President of the Earth Policy Institute. Mr. Brown is the author of many books including "Plan B 3.0: Mobilizing to Save Civilization" and has been outspoken on the food-to-fuels issue for several years. Our second speaker is Ken Cook. He's the Cofounder and President of the Environmental Working Group. Mr. Cook is the author of dozens of articles and reports in this field and he has significant experience in the biofuels policy debate. Our third speaker is Jonathan Lewis. Mr. Lewis is an attorney and Climate Program Coordinator with the Clean Air Task Force. He is also the author of a recent report on the climate impacts of biofuel production entitled, "Leaping Before They Looked: Lessons from Europe's Experience with the 2003 Biofuels Directive".

As I said before, each of our speakers will make some brief opening remarks and then we'll open to questions. So I'll now turn it over to Lester Brown from the Earth Policy Institute.

Lester Brown: Thanks Ryan. My role is to give a quick overview of the world food/fuel situation. The current rise in world grain prices is different from any we've faced before. In the past, these have been event-driven; for example, crop failure in the Soviet Union 1972 and the resulting doubling of world wheat and rice prices. This situation is trend-driven. And I'll come back to some of the trends in a bit. But what that means is this is not a temporary situation that's going to go away with the next harvest.

I also wanted to point out that the effect of rising food prices on poor people and rich people, affluent people like us is very different. When I buy a loaf of whole wheat bread at the supermarket not too far from here for \$3.00, it has about \$0.30 worth of wheat in it. If the price of wheat doubles, the loaf price goes to \$3.30, not a big deal. But if I live in northern India or in Pakistan and buy the wheat in the market, bring it home, grind it up,

and make chapattis, the doubling of the price of wheat is a doubling of the price of food; and similarly with rice where there's almost no processing involved at all. The other big difference between the affluent and the low-income people in the world is the share of income spent for food. In affluent countries, we spend 10 to 20% of our income on food. In developing countries, particularly among the billion or so poorest people in the world, they spend 50 to 60%. So when the prices double, they're in trouble.

On the demand side and looking at the trends, we continue to add 70 million people a year. We now have 4 billion people wanting to move up the food chain and consume more grain-intensive livestock products. And in the last few years, this extraordinary explosion in the U.S. use of grain for ethanol. Over the last 15 years, up until the last couple of years, the world demand for grain has been expanding about 20 million tons a year. Last year and this year, it's jumping by about 50 million tons a year. And that difference of 30 million tons is accounted for entirely by the growth in the U.S. use of grain to produce ethanol.

On the supply side, we also have some constraining trends now. One is the supply of water. The world demand for grain is simply outrunning the water supply. So half of us now live in countries where water tables are falling. The second thing is the shrinking backlog of technology to raise agricultural productivity. I could go into detail on that but it is not nearly as great as it was say 20 years ago.

One of the fundamental indicators is the relationship between world grain consumption and production. In seven of the last eight years, world grain consumption has exceeded production, which means that in each of those seven years, we drew down stocks. The result is that world carryover stocks of grain are now at the lowest level on record. We are one poor harvest away from total chaos in the world grain market.

In thinking about what to do, the most important short-term thing we can do is reduce the amount of grain going into fuel for cars in the United States. That's almost essential if we're going to restore a semblance of stability in the world food economy. The longer-term trends, the two big ones are stabilized population sooner rather than later and a worldwide effort to raise water productivity similar to the effort that was launched a half century ago to raise land productivity, an effort that has nearly tripled world grain yields over the last half century or so. And then finally, on Monday President Bush announced \$200 million for food emergency aid. That was a useful thing to do but \$200 million will provide rice for 2 million people for a year. It's not very much. And given that there are several hundred million people now caught in an impossible squeeze between a near doubling of their food prices and incomes that are not increasing at all.

The bottom line for me is the effect of this on political stability around the world and the realization that the number of failing states has already been increasing each year now for the last several years. And with this enormous stress of unmanageable food shortages, we could see a dramatic increase in the number of failing states. And that raises the rather fundamental question which is, how many failing states before our global civilization itself begins to unravel? I see this as one of the most serious threats to future progress and political stability that we've seen in a long, long time.

And with that, Ken I will hand it over to you, Ken Cook, Environmental Working Group.

Ken Cook:

Thank you very much, Lester. First of all, I want to associate myself with all of your eloquent remarks. I'm going to talk about four key points. First I want to talk about the whole question of transition to another form of feedstock from corn that's been talked

about a lot by proponents of ethanol. I want to talk about our experience in the energy bill and with Congress and the politics of that. I want to talk about what we have before us as a national plan for balancing food, fuel, and environmental impacts of the price spikes we're seeing now that I think will continue in the future. And then I want to talk about, as we head into Earth Day in particular, one particularly important and so far largely overlooked impact or casualty of these food price, commodity price rises that are fueled by ethanol, which is organic agriculture.

I came to Washington where I have spent most of my career trying to integrate concerns about production agriculture with ever-improving conservation practices and reducing the environmental impacts of agriculture. In the mid-1970's when I came here, we were facing a food crisis globally and we are facing one today. They have very different undercurrents and antecedents, but the fact of the matter is, we're back in the crisis today. The crisis in the 70's had devastating impacts on the U.S. environment from production agriculture at that time, which we gradually started to recover from in the mid 80's and beyond. But—and the description of that environmental impacts—I might point out on this call in particular earned Jim Risser from the Des Moines Register a Pulitzer Prize in the late 1970's. We're back in the same situation today with these high food prices. We are on the edge, I'm afraid, of a tremendous generational loss of progress in agricultural conservation.

The Environmental Working Group has supported ethanol in the past. We've supported floor votes in the Senate. In the 1990 debate, we have felt that there was good reason to investigate this avenue for generating sustainable sources of fuel and moving away from oil. We have never supported though the rapid and massive escalation of the industry in the way that has unfolded in the past five years. And specifically on that point, there's a theory about the ethanol economy in some circles that suggests that if we just build up the sector based on corn grain to 15 billion gallons, and I understand there's discussion now underway of a mandate of 20 billion gallons or more in some circles that once we build that up, we will then make a transition to switch grass as a feedstock or prairie grasses or something else. Our view is that we've made a mistake (A) not understanding the impacts of ethanol on the economy before this escalation, and (B) we don't think this transition is likely right now. We think we could be stuck in a corn-based ethanol economy for a long, long time.

Secondly, our experience with the energy bill. We worked very hard last year, tried to talk to everybody who would listen. And most people at least listened politely, but we didn't really make much progress about the need to have some reasonable environmental standards imposed on the production of the feed stocks for ethanol before we went ahead with this massive increase in the mandate. We urged people to take into account the potential impact on food prices and low-income people, which is an important environmental issue too. But we've-- our entreaties for all practical purposes fell on deaf ears. No one in Congress was willing to take on the corn lobby. And that unfortunately is still a political third rail in American politics. That's something that I think the last few months have helped change because now people are much more aware of the warnings that Lester Brown and others were giving us years ago about ramping this industry up too quickly. But now we're in the throws of a problem that it's not clear we're able to get out of. We just passed the energy bill in December. It has plans that stretch beyond a decade for ramping up the ethanol industry. And even though we passed it in December with decades long plans ahead of us, we're already uncertain about it in February and March and April. So we need to go back and rethink that. And Congress needs to rethink this ethanol mandate.

In my view, after spending a fair amount of time up on Hill talking to people about this, I think it's fair to say that Congress is driving drunk on ethanol. They are unwilling and unable to face the consequences if we do have this kind of price run-up. We know the environmental impacts are coming. Some of them are evident already. But I think where we'll really learn this is when there is a spade of bad weather. We already have a delayed planting season in the Corn Belt now because of rainfall. And the truth of the matter is that our national plan for balancing food, fuel, and the environment, the plan that's been developed in Washington comes down to this, good weather. We're counting on perfect soil moisture every year coming out of the winter. We're counting on enough of a dry spell in April and May to get the corn and the soybeans and other crops into the ground but not too dry so that we have enough rain to sprout the crops. And we're counting on a nice moderate summer with rainfall around tassling time in July. And we're counting on a crisp but dry fall. That's our national plan, good weather. That's how we're trying to balance food, fuel, and its environmental impacts.

And then I want to talk very briefly about one of the casualties so far of this price run-up in which ethanol plays a role. It's not the only factor by any means. We all know about the situation with the dollar, the weak dollar boosting exports, short crops in some parts of the world, increasingly aggressive advancements in developing countries where they want to upgrade their diet as Lester's described. We all know those are factors too. But so is ethanol.

And what is happening now in organic agriculture in this country is for the first time in over a decade, we are facing the real prospect of a contraction of that industry. After years and years of steady growth, organic dairy farmers, organic grain producers and other industries that are built up around them, companies built up around them, are having a difficult time maintaining the supply. The prices are going up. It is very difficult if not impossible to buy some organic grains on the market, organic soybeans on the market. We could be seeing over the next few years a turnabout in which organic agriculture actually contracts in the U.S. sector.

And this is-- no one is claiming that organic agriculture is the only form of advancement with respect to protecting the environment or public health where agriculture is concerned. But it has in the past been one of our most hopeful sectors with respect to responding to prices, rewarding people in the farming sector, based on markets, linking them to consumers who are willing to pay more. Well now that may be all about to change particularly for dairy and other livestock-related sectors of the organic industry. That, as we go into Earth Day, the prospect that organic is no longer separated as it long was from conventional is very worrisome. We are now seeing organic agriculture tied up in the same policy debates. We are seeing the impacts from conventional spilling over. It's no longer the case that just because their practices distinguish the product and because organic has had a growing market that they are isolated from the rest of the agriculture economy. Far from it and we could see this rising price structure for grains and oil seeds causing us to experience a real setback in 2008 to the organic industry, which is not a good testament to the work done by Congress on the energy bill or so far in this farm bill.

I want to turn it over now to Jonathan Lewis.

Jonathan Lewis:

Thank you. Thanks to both of you Les and Ken for that. I was going to talk today about how we found ourselves in the middle of this problem and how it's come to pass that we are, as Ryan put it, flying blind on this problem.

Several years ago my organization, the Clean Air Task Force, began considering biofuels as a potential way to reduce transportation greenhouse gas emissions. And that's a similar question that a lot of environment groups, those focused on climate, were considering. However, when we looked into it and we looked into the underlying analysis that suggested that biofuels may be helpful, we found those analyses to be highly inadequate. The models that purported to measure the full life cycle carbon emissions of biofuels were just simple engineering tools used to make energy balances for the petroleum industry. They were totally inadequate to handle the comprehensive econometrics that you need to analysis the market-driven climate impacts of shifting these markets.

So we started getting fairly concerned that in terms of biofuels, states, the federal government, and governments abroad were heading down a blind alley. Then two events over the last few years really crystallized for us this threat posed by a biofuel policies that encourage increased biofuel production, increase biofuel consumption. The first was a report put out in 2006 by Wetlands International and a Dutch consulting firm that found that peat land and forest conversion in southeast Asia, particularly Indonesia and Malaysia, was resulting in two billion metric tons of CO₂ per year, as those peat lands and forests were converted largely into palm oil plantations. The second catalytic event were the street protests in Mexico over the price of corn, particularly the price of tortillas, which most economists that were looking at the problem were linking to increased use of corn in the United States to produce ethanol.

The Clean Air Task Force then took a closer look at the European Union's biofuel directive, which was passed in 2003 and gone into effect in 2005. We found that the directive hadn't fully delivered on any of its objectives in as in most instances those objectives were to help the farm sector, to improve climate stability, and to improve energy security. It was scoring poorly on all three fronts. And worse the EU directive played a clear direct and indirect role in the conversion of the Southeast Asian forest and peat lands into palm oil plantations, which in turn contributed to enormous CO₂ releases. The order of those releases are far greater than any of the benefit that you ever expect to see from using biofuels to displace conventional petroleum-based fuels.

We presented the European experience to policymakers in the United States as a cautionary tale during the run up to last year's energy bill. The process described by Ken and unfortunately as described by Ken didn't get very far with Congress. They and the President signed into law this massive increase in the national biofuel mandate. Studies by Tim Searchinger and others came out shortly thereafter however that showed a negative climate impact of biofuel production policies. And then followed by the widespread concern about the rising food prices which are more and more clearly linked to, at least in part to biofuel production and consumption.

There's a growing recognition I would think that we need to give some real thought to whether pro-biofuel policies make any sense at all for any of the reasons that the proponents simply state. Fortunately, analytic tools are being developed that can help us answer those questions. Unfortunately they're not yet available. As we've seen already though, putting together a biofuel policy without useful analytic tools is a recipe for disaster. As scientists work to finish off those models, we at the Clean Air Task Force, think the policymakers need to suspend all new biofuel production initiatives and need to repeal the new production mandates established in the 2007 energy bill. Unless you take these steps, we continue jeopardizing both food security and climate stability.

Thanks.

Ryan Cunningham: Alright. So thank you to all of our speakers. This is Ryan Cunningham again. We'll now move into our Q&A portion. Before we start, I'd just ask that everybody please address your question to a specific panelist, to please keep your questions to the topic at hand, and if there are any follow-up questions after the call or if for some reason you don't get to ask your question, we're keeping track of folks who don't get through. And also you can contact me and it's Ryan Cunningham. And my phone number is 202-295-0164. And also I'd like to note before we throw it open for questions, that as Jonathan mentioned, there's a gentleman named Tim Searchinger who has done a study on the link between biofuels, land use and climate change. He's at the Woodrow Wilson School at Princeton. And he is also available to speak to anyone who wants to speak with him after this call. And I can set that up. So you can just reach me at that phone number. Having said that, we'll now open it up to calls or to questions.

Operator: Thank you. Ladies and gentlemen, if you have a question at this time, please press the one key on your touchtone telephone. If your question has been answered or you wish to remove yourself from the queue, please press the pound key. Once again, if you have a question, please press the one key on your touchtone telephone.

We have one question. Gail Hill of the Oregonian, your line is open.

Gail Hill: Alright, thank you. I know you touched on this but could one of you address the state policies that provide incentives for biofuels production locally and how that fits into the-- your concerns and this big picture problem we're facing?

Jonathan Lewis: Well this is Jonathan Lewis. There's two state policies that I'm somewhat familiar with and that's California and Massachusetts. And those policies are of great concern to us. And you know the storyline behind them is similar to the one behind federal policy initiatives, arguably they were undertaken for the best-- through the best of intentions. The consequences though are far from laudable.

In Massachusetts, the bill that has been floated would set a mandate, a minimum consumption mandate for biodiesel both for automobiles and for home heating systems. The problem with that approach is you pick a winner and it's not a winner at all. Mandating the use of biodiesel is bad. It's terrible for the climate and doesn't move us closer to any of the other goals.

California is-- California was further ahead on this process but it's really put the brakes on lately as they've come to understand some of these concerns particularly the concern expressed by Tim Searchinger and his research. And that is of the direct and indirect climate impacts of diverting a large part of our harvest over to fuel production. So I would say that the California process is fairly unsure of where it's headed right now.

But both states are cause for concern. However both of them seem to be cluing into some of these problems and are in the process of reanalyzing what direction they want to head in.

Lester Brown: This is Les Brown. One of the things I've noticed in looking at the reports of new start-ups of ethanol distilleries that state governments often provide tax incentives to companies that-- to get them to build the distilleries in their particular states. I haven't seen any tabulation on this as to how much it comes to and which states have been providing the strongest incentives. But it has been an active area for the last few years.

And in thinking about the share of our-- we usually talk about the corn crop. But it's also useful to think about the share of our total grain crop going into ethanol. From the 2007 harvest it was 18%. We estimate from this year's harvest it will be 28% of our total grain harvest going to ethanol distilleries.

Ken Cook: This is Ken Cook. I'll add on to that. I share Jonathan Lewis' concerns about these state initiatives. In some ways they're more worrisome because each of them individually again developed for good purposes, good intentions anyway to support industries within individual states to grow so-called green fuels and improve energy independence. Again are all being done as the national plan has been done without very many rigorous studies at all of the impacts on environmental and fairly generous assumptions, favorable to ethanol, about the potential impacts on food prices.

And so to ramp up an industry at this scale that again I'm afraid we could be stuck with for decades without a transition to things that are environmentally better, if those things are even available is a big mistake. And we're seeing I think a lack of political courage to stand up and simply state that if this is the right way to go, there's no reason why we wouldn't want to rigorously study and answer some of these rudimentary questions about what the impacts will be. But instead of doing that, we're growing the industry often with a mix of tax incentives and mandates at the federal and state level for the use of these fuels before we know where we are headed.

And that goes back to my point, I'll say it about Congress again and I'll say it about some state legislators, they are driving drunk on ethanol. And the thing about driving drunk is you can have a car full of inebriated people but when an accident happens, it's those who are behind the wheel who are responsible. Right now in Washington for the last year and coming into 2008, it's Democrats. If we have further increases in food prices, if we don't have that good weather that constitutes our national plan now for balancing these things, if we don't have good weather and we have significant price run ups, I think it's fair to say that a lot of fingers will be pointing to Washington. And when they point to Washington, they will be pointing at Democrats, who didn't in their leadership role, say wait a minute. Let's look before we leap here.

Operator: Once again, if you have a question, please press the one key.

We have one more question, Anne Thompson of NBC News. Your line is open.

Anne Thompson: Hi Lester. My question is this, is-- my understanding is that most of what is used to make ethanol in this country is corn, correct?

Lester Brown: Correct.

Anne Thompson: And so it's not rice or wheat and that is true around the world? Correct?

Lester Brown: Less true in Europe. For example, they use more wheat for ethanol. But it's still-- it is true for the world because we're so dominate in the world.

Anne Thompson: Right, but I guess my question is, it's two-fold. Is-- how do I ask this? Let me see. Just how-- beyond corn, what are the other crops that are being impacted by the diversion from the dinner plate to the car? And two, how concerned are you that with this country, especially in this country, where people just seem to be embracing the idea that we need to be more environmentally aware and to make changes in our lives that this-- if biofuels are blamed for the increase in food prices, it will set back that change in attitude, just as

Americans seem to start to be, you know, embracing the idea of climate change and that something needs to be done in this country about it?

Lester Brown:

First on the relationship between corn prices and the prices of other grains, the experience, the historical experience has always been that the price of one grain does not rise independently of the others. And that is both because of substitution on the demand side. For example China and India are both the world's leading producers of wheat and also of rice. And so if one of those prices goes up, then the other one tends to substitute and it pulls that price up as well. There's also competition for land. And if corn prices went up by themselves, then you would have enormous increase in corn acreage at the expense of wheat and soybeans for example in the U.S. But the reality is when corn prices started to go up, soybean prices also began to go up because they're competing for the same land. And that's true to a lesser degree for wheat.

It is also true that we do not eat much corn directly in this country. In some countries, they do. In sub Sahara [sp] and Africa, corn is the food staple. In Mexico and some other Central American countries, corn is the food staple. But in this country, if you open your refrigerator and you see milk and eggs and beef and pork and poultry and ice cream and yogurt and cheese, these are all corn products. Our refrigerators are stuffed with corn. And so corn is in that-- in a very real sense a source of food in our society.

The other interesting thing about this when we look at it on the broader scale, the global scale is that the U.S. effort to reduce its oil insecurity, and this has its roots in the oil export embargo during the 70's, but the U.S. effort to reduce its oil insecurity is creating unprecedented world food insecurity. What began as an energy policy is quickly becoming a foreign-- a policy with international fallout. Because what's happening now and this became I think more clear at the World Bank meeting with finance ministers from a number of developing countries is that the U.S. is being increasingly seen as a country that insists on driving SUVs, which are fueled in part with ethanol, even though it leads to spreading hunger and political instability in the world. And this could be one of the worst, what started as an energy policy, could be one of the worst foreign policy mistakes in our history. And I think this is one of the things that's going to drive change in our policy and could even, if it becomes severe, lead to pressure to reduce the amount of grain currently being used to produce fuel for cars.

Ken Cook:

This is Ken Cook, if I could just add something to that. I think part of the way to your answer on how we describe this situation without turning people off to environmental issues is simply to draw some of the connections back to the environment that should have been drawn if we had grown the ethanol industry in the proper way, with some planning ahead of time and some serious analysis that we are only now doing with the industry in full blown growth.

Secondly, Lester's exactly right about what we're replacing oil insecurity with which is food insecurity but we're also, because we're so dependent in this country on growing corn to produce ethanol, we're also developing a very serious dependence on imports of foreign fertilizer, a huge dependency there. That has not been talked much about. But as we replace some oil maybe in our SUVs, we're becoming very reliant on foreign sources of the nitrogen fertilizer we're required to have to grow corn.

We're also building coal-fired power plants, big fights about that in the Midwest now. One of the reasons we're building those power plants, we're in that debate about coal in the Midwest and building more power plants is because there's energy that is needed to produce ethanol.

But probably the best example that will really open people's eyes is when they go to the grocery store and if they're these environmentally conscious consumers, they're going to be going to the milk case or the dairy case and looking for organic milk. They'll be looking for organic eggs. Those prices are skyrocketing now not only because of ethanol but because of the higher prices we're seeing for all of these factors including ethanol. Corn might sell now for \$5 or \$6 a bushel in the spot market if you bought it today. If you buy corn that's organically grown, which is required for organically produced milk and dairy and other products, you're looking at \$12 per bushel. Organic soybeans are around \$25 or \$26 per bushel today if you can buy them. We're importing our soybeans for the most part for the commercial industry here, organic industry, from China.

So I think as people make more of these connections and understand we're losing organic farmers and losing potentially organic production for the first time in over a decade and see that setback, it'll begin to register with them. You can't just grow up a big industry like the ethanol industry without environmental consequences no matter how good the intentions, no matter how green it looks at the outset. When you look at the real impacts, like we're seeing on organic food, which has not been much reported, I think people begin to put the puzzle together.

Anne Thompson: But isn't it also it's-- but it's more than just the price of the commodity it's also the price of transportation as you alluded to. I mean we're paying more in our grocery stores not just because corn is being diverted to fuel but because oil is well over a \$100 a barrel?

Ken Cook: There's no question that there is also a huge impact on the CPI as a result of-- on the consumer price index for food and for other goods and services as a result of the energy price increase, no question about that. I don't think anybody in the call is suggesting that only ethanol is making these things happen. But it's a factor and it's a factor--

Anne Thompson: And how big a factor is it? I mean if you were to divide up the increase that we have seen in food prices, is do you think ethanol is mostly responsible for that? Is the price of fuel mostly responsible for that? What is it? Where would you rank the reasons for the increase we've seen in food prices?

Lester Brown: This is Les speaking. If I were answering that, there's no question in my mind but that in this country and worldwide, the big change, the thing that's really driven up prices has been the 30 million ton of grain per year increase last year and this year in the use of grain to produce ethanol. That totally dwarfs anything else. The rising oil prices are contributing to increased transportation costs. And that's particularly true for fresh produce that's flown from California to the east coast for example.

But the other interesting thing about the relationship between oil prices and food prices is that with the greatly expanded capacity to convert grain into oil, in effect, grain into ethanol, the price of grain is now tied to the price of oil because if the food value of a grain is less than the fuel value, the market will move that commodity into the energy economy. And so as the price of oil went from \$60 a barrel to \$100 a barrel over the last year or so, the price of grain followed it up. If the price of oil goes to \$140 a barrel, the price of grain will continue to follow it up simply because we can now convert grain into oil, in effect. And I don't think we've yet quite grasped what's happening and how the price of oil is affecting food prices on the demand side as well, as in the more traditional way of affecting production costs.

The other thing that I find particularly interesting now is that, as I mentioned at the beginning, in the past these world price surges in grain price surges have been the result of events, usually a weather event in a major producing country. And so the challenge always was simply to make it to the next harvest because if we could make it to the next harvest, things would return to normal. That made problems much more manageable than they are right now because there's no likelihood that with this year's harvest, there's going to be any easing of prices. Indeed if you look at November futures prices for wheat and corn for example, they're actually a bit higher than the near-term futures prices, which means that the market is now beginning to recognize that this is not a temporary situation but a longer-term situation and it's going to be much more difficult to deal with.

Anne Thompson: So is the answer then cellulosic ethanol? Or we just should give up on ethanol altogether? I mean what is the answer?

Lester Brown: Well I think there are two things here. This was addressed by Ken earlier. From what I can see in this country or indeed anywhere in the world, I don't see any economic technology yet for converting cellulose into ethanol. Any plants that are being built are being heavily subsidized and there are very few of them. The other thing is that if-- I mean we talk about switch grass or other prairie grasses or what have you being grown on marginal land. But if those crops, if we ever make it to cellulosic ethanol on a large scale, those crops are profitable on marginal land, imagine how profitable they would be on prime crop land. And so if oil prices are somewhere between \$100 and \$200 by the time cellulose and ethanol comes in, there's no reason in the absence of government intervention why more and more land, marginal and prime crop land, wouldn't go into biofuel production.

Jonathan Lewis: This is Jonathan Lewis. I think the critical point that Les is making is that regardless of the feedstock, the critical component is land. It's, in theory, the cellulose-based ethanols are going to be more efficient but they will still be displacing food-based agriculture and you're still going to have food security issues and climate security issues that are attendant to that. And the concern that we have is that until we have the types of tools that can spin that process out and give us some sense of what the climate impacts will be, what the impact from the food market will be, we're flying blind or in Ken's language, we are driving drunk. We really cannot afford to continue to make biofuel policy without some sense of where it's going to put us in terms of food security and climate.

Ken Cook: Yeah I would-- this is Ken. I would just add, we often hear from the same policymakers who are skeptical say about photovoltaic energy systems for generating electricity that we're not sure it's practical yet. It may be too expensive and so forth. Those are some of the same politicians who are willing to turn right around and say it's fine if we build up this ethanol sector with 15, 20, 30 million acres of corn production because eventually we're going to transition to switch grass or prairie grass or something else and it will all be benign.

If you have your doubts about photovoltaic energy for electricity and you applied those same critical faculties to ethanol, you would conclude perhaps that cellulosic ethanol now is a pipe dream. And to reinforce what Jonathan and Les are saying, let's say we did solve the technical problems that allowed us to economically engineer this up to production scale, you would then still have the question, why wouldn't good land now being used for growing grain, either for ethanol or food, why wouldn't that be converted to switch grass and leave us in the same kind of lurch, trying to balance food and fuel and environmental impacts with a basic plan that says well let's just hope every year that we have average weather.

- Operator: Our next question comes from Allison Winter of Greenwire.
- Allison Winter: Hi, thanks. This question is probably mostly for Ken about the organic agriculture stuff that you were talking about. Just to make sure I understand everything, the risk is because you need the higher margin for organic. And as other food prices go up, then organic is becoming overly expensive?
- Ken Cook: Well one of the big factors here is the most robust growth we've seen in the organic sector, some of the most robust growth has been in the dairy area. That's why you can find organic milk even in large supermarket chains almost all around the country. Eggs have grown up dramatically. They're more available now organically produced. There's not enough organic grain out there now to sustain that growth and we may be seeing a contraction in those two sectors of the organic industry, which would be a real setback.
- And the reason, part of the reason is because conventional grain prices are so high, some organic farmers are dropping out of organic because they can make just as much money and in some cases more conventionally. So the old price differential is no longer as attractive as it once was for organic. And it's becoming very difficult to recruit new farmers into organic dairy production now and organic grain production for those same reasons. They're sticking with conventional.
- So this whole hope that we were going to expand the organic sector to solve more of our environmental and health concerns is in jeopardy. And remember we are now, after all these years of growth and all the talk about the organic industry being the most exciting sector of the agriculture industry, it is still only occupying one-half of one percent of all the farm land in this country. So it's really just barely a perceptible presence despite its major cultural imprint. It's a modest presence on the agricultural landscape and from a public health standpoint so far. If it means we can't grow it as a result of these very high prices right now, that's a setback people should pay attention to on Earth Day.
- Allison Winter: Are there things that can be done to help support organics?
- Ken Cook: Well there are-- it's hard to think of ways in the short term that we can get them out of this crisis. This is Ken again. But we certainly could have invested a great deal more than we invested so far it looks like in this coming farm bill in research and development, helping organic farmers solve some of their transition problems with wheat control, plant nutrition and so forth. That's a sector that has not gotten much research support before. Meanwhile we're spending billions of dollars privately and publicly to help develop genetically modified organisms and seed varieties that are going to be able to withstand drought, all so that we can expand conventional agriculture. So that inequity there could have been fixed much better in this farm bill than it was but unfortunately as with many other important priorities, they lost out to the subsidy lobby being unwilling and politicians being unwilling to make changes to shift some of that money into better investments like organic research and development and marketing.
- Allison Winter: And you said that in 2008 we could lose some organic farmers, do you have any numbers on that or?
- Ken Cook: The sector is so small that no one really does have numbers yet. We hear this anecdotally from friends in the organic industry, which I can try and put you in touch with if you want to give a call afterwards. But I can tell you right now I've been talking to organic

grain merchants and organic dairy experts, people involved in the industry including dairy farmers, and they're not sure they can stay in business.

Allison Winter: Thanks.

Operator: Once again, if you have a question, please press the one key. We'll pause one moment to see if there are any further questions.

Ryan Cunningham: This is Ryan Cunningham. If-- I'm going to make the last call for additional questions.

Operator: Once again, if you have a question, please press the one key.

Ryan Cunningham: Going, going, gone. Once again, if anyone does think of a follow-up question or would like to speak to Tim Searchinger or get any follow-up information at all, please contact me. My number is 202-295-0164. And I want to thank all of our participants today and all of our questioners and happy Earth Day in advance everyone.

Unidentified Participant: Thank you.

Operator: Ladies and gentlemen, thank you for your participation in today's conference. This concludes the program. You may all disconnect. Everyone have a great day.