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SUBCOMMITTEE HEARING ON SMALL BUSINESS RENEWABLE ENERGY TAX INCENTIVE POSSIBILITIES

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SUBCOMMITTEE HEARING ON SMALL BUSINESS RENEWABLE ENERGY TAX INCENTIVE POSSIBILITIES

Wednesday, September 26, 2007

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON CONTRACTING & TECHNOLOGY
COMMITTEE ON SMALL BUSINESS,
Washington, DC.

The Subcommittee met, pursuant to call, at 9:35 a.m., in Room 2360, Rayburn House Office Building, Hon. Bruce Braley [Chairman of the Subcommittee] presiding.

Present: Representatives Braley, Cuellar, Clarke, and Davis.

Also Present: Representative Holt.

OPENING STATEMENT OF CHAIRMAN BRALEY

ChairmanBRALEY. I now call this hearing to order and would like to welcome everyone. I call this Subcommittee hearing to examine the issue of small businesses and the renewable energy tax incentive possibilities.

The notion of modifying our tax policy to reflect the economic needs of our Nation and of small business is critical. Nowhere is that more clear than when we talk about energy policy. Since the 1900s, the Tax Code has served as a primary tool that shape energy priorities in America. Today, this Subcommittee will have the opportunity to explore how tax incentives can play a role in promoting renewable sources of energy. Our distinguished panel shows us that small business can play an important role in this effort.

Over the last 2 decades, small businesses have been at the forefront of renewable energy production and growth. Whether it is the growing number of small biodiesel or solar facilities or farmers who are providing inputs, small companies are leading the way in shifting America toward clean domestic supplies of energy. While there has been significant growth, renewable energy continues to make up only 7 percent of the energy produced and consumed in this country. As for renewable fuels, they make up only 1 percent of this energy.

In order to improve upon this, it is critical that we have a proper Federal policy in place. The bottom line is that if we are going to stimulate investment and production in alternative sources of energy we must have valid tax incentives. These measures will not only encourage investment in new technologies but will make it financially possible for renewable energy producers to operate and to expand. I am very optimistic that alternative sources of energy will

continue to grow due to the fact that this Congress has already taken steps to encourage greater production and use of clean domestic supplies.

Recently, the House passed its comprehensive energy bill that included a number of measures to promote renewable production. It included tax incentives that place a higher premium on new technologies and production that will further the next generation of renewable energy. I supported this bill because it invests in America's future. It is renewable energy like wind, solar, hydropower, and other clean fuels. It puts small businesses front and center in this effort, and it develops a framework for renewable energy to grow. The tax policies in this legislation will help many small producers address the challenges that exist in renewable energy production.

Earlier this year, our Subcommittee held a hearing on meeting the workforce demands of small bioenergy businesses, and I am extremely pleased that the Farm Bill that we recently passed included a renewable energy workforce education program that was first outlined in the New Era Act I introduced in February. We must secure our Nation's energy future through efforts such as tapping into biofuels, wind and solar by training our farmers and workforce for bioenergy production. We also know that the viability of renewable energy producers is dependent upon having modern technology.

All of these challenges threaten the financial viability of renewable energy production. With the proper tax incentives, we can help producers overcome some of these challenges. We must have economic policies that will help bring stable energy supplies and create jobs here in America.

In Iowa alone, the exploding renewable energy sector has created thousands of jobs. As of early 2005, it is projected that ethanol could create over 5,000 direct and indirect jobs and pay $82.4 million in wages per year. With further improvements, these numbers underscore the potential for additional opportunities for small businesses with the proper tax incentives.

The time to act is now. By switching our energy focus from the Middle East to the Middle West and to the entire country, we can transform our energy economy and improve our international security.

There is a promising future for the next generation of bioenergy, including great potential for the growth in the evolving cellulosic industry. At a time when our country is facing record energy prices, it is critical that we continue to develop alternative energy supplies. Small businesses can help us achieve this goal, but only if they have the right tax priorities to make it happen. If we truly care about the security of our children's future, we need to continue pushing the envelope on the bioenergy economy. Reexamining our energy tax priorities will be a huge help.

I look forward to today's discussion, and I yield now to my colleague and friend from Tennessee, Ranking Member Davis, for his opening statement.

OPENING STATEMENT OF MR. DAVIS

Mr.DAVIS. Thank you, Mr. Chairman.

I would like to thank all of the witnesses for attending and for contributing today at this very important hearing concerning small business renewable energy tax incentive possibilities.

I would like to especially thank Mr. John Hutchinson, who traveled from Johnson City, Tennessee, where he is located in my district, to be here with us today.

Again, thank you to all of the witnesses. We are eager to hear your testimonies.

No matter where you are or where you go nowadays, it is impossible to escape the realities of the extremely high energy costs facing the American population. The simple act of filling up a gas tank has become a painful experience for many Americans due to the high cost of fuel. A great many American families are dreading the winter season due to the high cost of heating their homes that will come with it.

Additionally, small businesses are taking a huge blow due to the fact that increased energy costs are greatly affecting their bottom line. For some time now, everybody has known that the strife faced today is because of high energy costs due to the fact that America is far too dependent on foreign oil sources, and for some time now much effort has been put into developing alternative sources of energy to diminish the necessity of America's reliance on oil that often comes from volatile areas such as the Middle East and Venezuela.

Great strides have been made in developing alternative fuels. With a large amount of attention being given to renewable fuels, biodiesel and ethanol have been proven to be safe optional fuels which are derived from seemingly unending sources. Wind energy and solar power also offer great promise in the quest for energy resources, and I am certain that further research into alternative energy sources will yield new techniques for producing renewable fuels that most of us here today in this room cannot even fathom.

Some believe that restructuring the Internal Revenue Code to provide incentives for this type of research may help expedite this process. I agree. I firmly believe that simplifying our Tax Code and offering targeted tax reductions for alternative fuel research, production and compensation can help wean our dependence on foreign sources of energy.

However, in this drive to reinvent the way we produce and consume energy, I think it is extremely important not to forget an already existing energy source right under our noses. A balanced approach is needed to maintain the high energy demands our country needs for continued growth. Renewables offer a great deal of promise in the very near future, but we must also be able to maintain our current energy production while fostering growth in this exciting new field.

For example, coal is indispensable for the production of electricity, and still, it is very important in the manufacturing of cement, paper and industrial heating. U.S. coal reserves currently stand at 275 billion tons, an amount that is greater than any other Nation's in the world. These reserves are capable of meeting domestic demands for more than 285 years at current rates of consumption.

Domestic sources of fossil fuels currently provide us with a renewable source of energy, and obtaining them from places such as the Arctic National Wildlife Refuge should not be discounted.

Once again, I look forward to hearing the testimony from all of our witnesses today, and I believe it will give us a great insight into the issue at hand.

Thank you again for being here today.

ChairmanBRALEY. Thank you, Mr. Davis.

We will now move on to testimony from the witnesses. The witnesses will be allowed 5 minutes to deliver their prepared statements.

The way the light works is, when you have 1 minute remaining, the yellow light will come on, and then when your time is up, the red light that you see on the table between Mr. Breitbach and Mr. Woolsey will come on.

At this time, I would like to introduce my friend and colleague Rush Holt to introduce our first witness.

Mr.HOLT. Thank you, Chairman Braley, for calling this hearing on this important subject to discuss renewable energy tax credits and for bringing together such a distinguished panel. I would particularly like to recognize and introduce to you my friend and constituent Quentin Kelly, who will testify in just a moment.

I think you have emphasized, Mr. Chairman, that small business is not only the source of jobs and new jobs in this country but is also the source of ideas and inventions. I have been privileged to know Mr. Kelly for many years, and as the founder, chairman and CEO of WorldWater Corporation in Pennington, New Jersey, Mr. Kelly has done a great deal to provide water and power solutions around the U.S. and especially to developing nations. WorldWater holds patents on powerful solar electric systems, motors, and Mr. Kelly is a member of the New Jersey Inventors' Hall of Fame, and is particularly well-suited to talk about today's topic. WorldWater has helped provide relief in the gulf coast region following Hurricane Katrina, and I am pleased that the committee is hearing from Mr. Kelly today, and I am sure that his experience will be very helpful as you carry this subject forward.

I say welcome.

STATEMENT OF QUENTIN T. KELLY, CHAIRMAN AND CEO, WORLDWATER & SOLAR TECHNOLOGIES CORP., PENNINGTON, NEW JERSEY

Mr.KELLY. Thank you. Mr. Chairman, thank you for this opportunity.

Members of the House Small Business Committee, Subcommittee on Contracting and Technology, Congressman Holt, other panelists, and guests, I am Quentin T. Kelly, Chairman and CEO of WorldWater & Solar Technologies Corporation of Pennington, New Jersey. We are solar engineers and water management engineers. We solve power problems and water problems, utilizing our proprietary solar technology. This is PV, photovoltaic.

This technology which we have developed enables us not only to generate and to distribute solar electricity but to also drive motors and pumps up to 1,000 horsepower. Now, I will repeat that. We can drive motors and pumps up to 1,000 horsepower from sunshine

alone or in seamless conjunction with the electric grid, or diesel generators. We are one small business that can point directly to the Federal energy bill that instituted the 30 percent Investment Tax Credit as an extremely significant part of our success.

Today, WorldWater technology is operating the largest solar irrigation system in the world, a citrus ranch in Borrego Springs, California, the largest agricultural solar system in the world, a 1,000-acre avocado ranch in Fallbrook, California. The only totally self-sustaining water district in the world—that is, grid power—may be interrupted, a blackout or the district can be disconnected from the grid, and that water district can continue normal operations strictly from our solar electronics. We have a half megawatt of solar-generated electricity at the Atlantic City, New Jersey Water Treatment Plant, and we have just begun construction on the largest PV plant for an airport in the world, for the Fresno-Yosemite International Airport in Fresno, California, where we will supply 40 percent of the electricity required and will save the airport an estimated $13 million over the 20-year contract period.

We first implemented the tax credit, the 30 percent tax credit, in 2006 by creating Power Purchase Agreements for third-party investors. This investor group funds the installation of our solar technology and equipment for host customers who then pay for the electricity so generated for their buildings, airports, water districts, et cetera, at a discount to the going utility rate. The host customers pay directly to the investor group, who take advantage of the 30 percent tax credit plus other incentives from the State and take the renewable energy credits which are also generated.

The amount of business created by this, not just with WorldWater but throughout the solar business as it is now beginning to roll, is truly significant. What happens with our PPAs is a triple win situation. The host customer, corporate facility owner, municipality or water district pays nothing up front and receives a discounted rate for his electricity when it is installed and delivered. The investor group makes some 10 to 15 percent after-tax return annually, and WorldWater sells a whole lot more technology and equipment, earning much more revenue and employing substantially increased numbers of workers.

To be specific, we had no PPA business in 2005. We initiated our first PPAs in late 2006, and nearly all of our business in 2007 will be from PPAs. In 2005, we had 27 employees and generated $2 million in revenue. In 2006, when we started the PPAs, we moved up to 40 employees and $17 million in revenue from $2 million. In 2007, we now have 80 employees, and I have given guidance on revenues for this year of $25 million. We have a potential business pipeline now of $200 million, and much of that will be through PPAs. Next year, we anticipate having 150 employees.

In addition to the direct influence on the sales of this one tax credit of 30 percent, the greatly increased growth of our company through the help of the PPAs now enables us to reach up and to bid for projects in the U.S. and around the world of a much larger dollar size and system capability.

The importance of this hearing today on tax policy favoring credits and assistance to renewable energy efforts, in my opinion, could not be reflected any more clearly than in the facts and prospects

that I have just described. What you have instituted and are considering in terms of lengthened tax incentives has palpable effects in the marketplace. WorldWater and Solar Technologies is a prime example. If we benefit, the renewable energy industry benefits, and America's energy policy will experience success unforeseen even a few years ago. That is how fast we in the solar business now see the future of our power generation developing. We can use your help.

Thank you very much. I would love to go into some more detail, if you are interested, in the Q and A.

[The prepared statement of Mr. Kelly may be found in the Appendix on page 33.]

ChairmanBRALEY. We will have that opportunity.

The next witness is a constituent from my district. Mr. Craig Breitbach is the Director at Western Dubuque Biodiesel in Farley, Iowa, and for those of you keeping score, Farley is located about 10 miles from the Field of Dreams, and I think there is nothing more accurate as a symbol of what bioenergy provides in terms of the future other than a field of dreams.

So, with that, Mr. Breitbach and his company employs 31 people. Western Dubuque Biodiesel, LLC was formed in November 2005 by a group of eastern Iowa farmers and businesspeople. Western Dubuque develops and operates a biodiesel facility that produces a cost-effective and environmentally friendly fuel while supporting agriculture and reducing America's dependence on foreign oil.

With that, Mr. Breitbach, thank you for joining us.

STATEMENT OF CRAIG BREITBACH, DIRECTOR, WESTERN DUBUQUE BIODIESEL, FARLEY, IOWA

Mr.BREITBACH. Thank you.

Thank you, Mr. Chairman, Ranking Member Davis and members of the committee, and thank you for allowing me to testify on behalf of Western Dubuque Biodiesel and REG.

Two weeks ago, we had our ribbon-cutting at our facility. Western Dubuque Biodiesel, a 30-million-gallon-a-year plant uses feedstock, soy oils and other oils for feedstock. I will give you a little background on Western Dubuque Biodiesel.

In October of 2005, a group of investors, small and big, came up with $6 million of seed money to do a feasibility study. Western Dubuque then set a date for an equity drive on June 6 of 2006. In one day, investors came out in droves. 579 unit members came up with 19,529,000 in 4 hours. It was the fastest equity drive seen in Iowa—closed in 4 hours. We broke ground in July of 2006, started producing biodiesel in August of 2007.

As Chairman Braley said, we have 31 employees—31 employees—no more than 25 miles away from the plant to travel. It is a great plant for Farley, Iowa. Farley is 18 miles west of the Mississippi. Farley, Iowa is a 1,200-person town with a $41 million plant. Not only did this plant create 31 jobs; it created jobs for trucking industries, local vendors, pipes and valves, and so forth. I would also like to take note that REG is working toward the construction of a new biodiesel facility in Rock Port, Missouri in Congressman Graves' district.

Biodiesel, it is a great renewable field. It takes 1 unit of input energy to create 3.2 units of output energy. REG and Western Dubuque Biodiesel are all about putting out quality BQ-9,000. BQ-9,000 is an ASTM standard to produce the best quality biodiesel. We are very proud of our plant. As it takes normally 4 to 6 weeks to achieve this goal, our plant achieved it in 7 days, so we are very proud of that. With the help of REG and the commitment to put out a quality product and achieve, we achieved the ASTM standards in 7 days.

Biodiesel, it reduces our dependency on oil, and domestic biodiesel is grown in America by American farmers, produced by Americans and is delivered to Americans by Americans.

The biodiesel emissions, the EPA has sent out several emission standards. Biodiesel, total unburned hydrocarbons, a negative 67 percent. Carbon monoxide, a negative 48 percent. Particulate matter, a negative 47 percent. Overall, a negative 50 percent—negative—from standard diesel.

Western Dubuque Biodiesel and the biodiesel industry in Iowa employ over 3,000 Iowa investors. Excuse me. 3,000 Iowa investors have invested in the biodiesel industry in Iowa.

I am here asking for your help on three things—extending the dollar per gallon biodiesel blender's tax incentive to help make fuel prices competitive with conventional diesel fuel, maintaining a strong CCC bioenergy program to help with high feedstock prices, and enacting a biodiesel-specific requirement as part of a renewable fuel standard. We need a market for our product.

I would like to conclude and thank you. Mr. Chairman, I appreciate the opportunity to come before you today and to present our case. Thank you very much.

[The prepared statement of Mr. Breitbach may be found in the Appendix on page 36.]

ChairmanBRALEY. Thank you, Mr. Breitbach.

Our next witness is Mr. Ed Woolsey, who is the President of Green Prairie Wind Development in Prole, Iowa, which is located in the Des Moines Metro area. He was raised on a farm that harvested corn, soybeans, alfalfa, grain, sorghum as well as raising cattle and hogs. Mr. Woolsey spent 5 years as a renewable energy program coordinator for the State of Iowa, a very, very important responsibility, and he currently works with farmers and small businesses in developing community-based wind turbine projects.

Welcome, and please share your opening remarks with the committee.

STATEMENT OF ED WOOLSEY, PRESIDENT, GREEN PRAIRIE WIND DEVELOPMENT, PROLE, IOWA

Mr.WOOLSEY. Thank you, Chairman Braley, members of the Subcommittee and Ranking Member Davis. Thank you for the ability to come here and to speak to you today about this industry.

I have had the opportunity to work in the renewable energy business for over 20 years now in Iowa. I have owned and operated small renewable energy businesses for 13 of those years. I want to start by saying I am more optimistic now about the future of the industry than I ever have been in my life. When I started working

in the industry in Iowa, one person could follow all of the projects in the State and understand the technologies. Today, we have over $5.5 billion worth of concrete and steel in the ground or under construction in renewable energy. I believe we are only scratching the surface of this 21st Century industry. Many organizations have estimated the jobs and economic development surrounding the industry. I would refer you to the Union of Concerned Scientists and to the Energy Foundation for reports.

While the reasons for supporting renewable energy have always included reducing heavy metals like mercury in the environment, reducing asthma-causing particulates in the air, preventing oil wars, slowing global warming, reducing trade imbalances, and protecting God's creation, the motivating issue that seems to have gained the most traction is that of making money. Tax policy is one of the key mechanisms that enables developers in the industry to make money. In the energy development business, there is no economic level playing field. Fossil fuels have been subsidized for decades in ways too numerous to mention. If we were to internalize all of the costs associated with fossil fuels and pay that price and we turned on the light switch or were to pay at the pump and we were to incorporate the benefits of developing sustainable energy in the price consumers pay, there is no doubt sustainable energy would be cost-effective today, but unfortunately, that is not the world we live in. With that in mind, let me briefly lay out some details of how we are currently able to build projects, some of the hurdles and some of the ideas where incremental tax policy might help.

I am currently involved in what we call ″community-owned wind projects.″ the projects I am referring to consist of 10 2.1-megawatt wind turbines and 10 mostly farmer owners. These wind turbines cost over $3 million each installed. The electricity is sold to a local generation and transmission cooperative at a very modest price under a long-term contract. The turbines are utility-scale, state-of-the-art machines, each being able to supply enough electricity for 750 homes.

While all sustainable energy development is good, it needs to be done rapidly. It is not all equal. For example, energy projects with significant local ownership have been shown to return up to 10 times the economic value to communities as those with typical corporate ownership. Projects having typical corporate ownership, the vast majority of those, usually provide land rental to the local landowner typically in the range of $2,500 to $4,000 per turbine while the same landowner who owns the turbine could retain $20,000 to $50,000 per turbine annually after debt service. In the renewable energy industry, ownership matters.

Since none of our 10 farmer owners had $3 million in the bank, other money must be brought to the project. This is where tax policy played the largest role. Section 45 production tax credits is the largest cash-flow contributor after the sale of the electricity itself. In order to take advantage of the tax credit and to meet the passive income constraint, an outside investor must participate in the ownership of the business. The investor must then monetize his contribution to a present value, then hopefully monetize the available accelerated depreciation of that capital expense at the same

time. Selling both of these tax credits by the developer reduces the value of the credits by the amount necessary to serve as an incentive for the new partner to participate. This discount is not taken by large companies able to use the entire tax credits and depreciation internally and those that have passive income appetites. The ability of the section 45 tax credit to offset active as well as passive income will be helpful to our locally owned project development.

In addition to bringing in an equity partner, success of our projects was dependent on each of the 10 LLCs successfully obtaining grant money and loan guaranties under the new energy title, section 9006 of the 2002 Farm Bill. This energy title has been hugely successful starting new sustainable energy companies in Iowa, and we hope it will be reauthorized and funded in a much larger amount in the 2007 Farm Bill. Money from the USDA program does trigger a reduction in section 45 tax credits due to a double-dipping provision. The elimination of this provision would have a favorable impact on project development.

After bringing in money from a new partner, the Farm Bill and any State incentives available, a considerable amount of debt is still to be obtained and serviced. Due to the maturing nature of the industry, local banks are now ready and willing with debt financing. The funding is available at market rates, and this funding stream may be a place where future tax policy may provide some incentives for small business development. A beginning farmer loan is an example of that.

Tax changes that could rapidly build our industry would be to provide tax credits to the electricity offtaker for signing long-term contracts with sustainable energy projects that meet the criteria of ″locally owned.″ these incentives would need to be at a level that would more than offset the current advantage that electricity buyers/utilities see in owning the turbines, themselves.

I have a couple of more. I see I have exceeded my time. I will submit them for the record.

[The prepared statement of Mr. Woolsey may be found in the Appendix on page 41.]

ChairmanBRALEY. Thank you.

Our next witness is Mr. Kim Zuhlke, who is the Vice President of New Generation for Alliant Energy Corporation in Madison, Wisconsin. Alliant Energy has diversified electric generation capabilities, including renewable resources like wind, solar and anaerobic digesters. Alliant is an investor-owned, public utility holding company which provides electric and natural gas service to Iowa, Wisconsin and Minnesota.

Thank you for joining us, and welcome, Mr. Zuhlke.

STATEMENT OF KIM ZUHLKE, VICE PRESIDENT - NEW GENERATION, ALLIANT ENERGY CORPORATION, MADISON, WISCONSIN

Mr.ZUHLKE. Mr. Chairman, Ranking Member Davis and members of the committee, thank you for the opportunity to appear today. I am Kim Zuhlke, Vice President of New Generation for Alliant Energy, an electric and gas utility, serving portions of Iowa,

Minnesota and Wisconsin, including part of the chairman's district in Iowa.

Small business is the job creation and economic development engine across the country. Our service territory is no exception. Having grown up on a farm and starting my career in the agricultural seed business, in my experience, farmers are among the most courageous of small business people. While I applaud your effort to uncover the opportunities and to remove the obstacles of expanding renewable energy use and production by small business, my remarks will focus on farming. There are two specific areas that I will address as it relates to potential Federal actions that could remove barriers and expand on-farm use and the production of renewable energy—first, the deployment of anaerobic digesters and, second, energy crop production for electric generation.

For those not familiar with digester technology, the system is designed to capture the methane that is produced as manure decomposes and to convert it to a fuel that can be used either for pipeline quality gas, transportation or for on-farm electric generation. By capturing and burning this methane, it prevents the release into the atmosphere of greenhouse gases 20 times more potent than carbon dioxide is. It is a domestic renewable fuel source. The process eliminates odor associated with traditional manure management systems and produces a by-product that can be put to profitable use as fertilizer for crops or in the lawn and garden industry.

At Alliant, we have a partner thus far with four farm customers in our service territory to implement digester systems and have identified the following barriers to expanded use of manure digester systems.

First, there is no standard manure digester design. We need to have these systems be more ″plug and play.″ additional funding for research development and demonstration projects could help. Grants to manufacturers to develop standardized systems would be useful.

Second, there are issues of scale. For example, a herd of at least 500 head is required today to make sure such a system is economic. It does not provide a solution for the smaller family farm. Appropriate investments in research and development can help make these systems more scalable. Alternatively, we could attempt to create cost-effective methods for farms to transport manure to a central digester. Here again, the specific grant to develop such a system would be appropriate.

Third, for most farm customers of any size, making the capital investment represents the largest single barrier. Grants, low or no-interest loans would go a long way toward addressing the issue. We have found that tax credits are not as beneficial to most farmers unless they could potentially be sold to generate cash.

Lastly, on a more technical front, in order to make the system as efficient as possible, one does need to achieve the right mix of enzymes and microbes in the digester. This is not always a simple task. Further research and development funding could help make this potentially complex part of the equation more of an off-the-shelf solution.

I now want to move to energy crops. Alliant Energy is currently in the process of seeking regulatory approval to build two new coal-

fired power plants. Both will be designed to co-fire biomass. In order to accomplish this goal, we need farmers within 50 miles or so of the proposed plant sites to agree to grow these crops. While this is potentially very attractive to farmers, we are discovering certain barriers.

Corn prices have risen as the current and projected demand for corn-based ethanol has grown. Because there is a limit to what we can pay for an energy crop and still make co-firing economic at these new plants, we need to make growing energy crops attractive as well.

Switchgrass can grow in fields that may not be fertile enough to grow corn or is highly erodible. In many cases, these fields are currently enrolled in the Conservation Reserve Program, or CRP. Changing the rules governing CRP land will allow farmers to grow or move switchgrass for biomass without suffering the financial penalties they currently face when harvesting hay from the CRP land, and it would go a long ways toward addressing this issue. By allowing 80 to 90 percent of switchgrass on the CRP land to be harvested once per year, it would continue to be a benefit to wildlife, would maintain reduced erosion, and would allow for the production of a beneficial crop without increasing the Federal price tag of CRP. Once established, switchgrass is a relatively easy crop to grow and maintain. It is, however, difficult to get started, and it typically takes 2 to 3 years to become established. Grants, low or no-interest loans could help farmers defray upfront expenses and the potential loss of income as the crop is being established.

Switchgrass and other energy crops can be used as fuel in power plants or as the feedstock for the future production of cellulosic ethanol. Both are beneficial, and whatever incentives are established for one should be generally equal to the other.

We look forward to working with our farm and other small business customers to make the expanded use and the production of renewable energy a reality, and we welcome your support in meeting this goal.

Thank you very much.

[The prepared statement of Mr. Zuhlke may be found in the Appendix on page 44.]

ChairmanBRALEY. Thank you, Mr. Zuhlke.

For our last witness, I will yield to the ranking member for the introduction.

Mr.DAVIS. Thank you, Mr. Chairman.

I would like to introduce Mr. John Hutchinson. John is a graduate of West Virginia University. He already spent 50 years of his life in the heart of West Virginia's coalfields. He has over 38 years of experience in the coal industry, working with the construction of underground slopes and ventilation shafts, aboveground with the construction of coal preparation plants and material handling and conveying systems. Currently, Mr. Hutchinson serves as the Vice President of Finance at Powell Companies right in the heart of my district in Johnson City, Tennessee. He also serves on the Board of Directors for the Johnson City, Jonesboro, Washington County Chamber of Commerce.

John, thank you for being with us today.

STATEMENT OF JOHN HUTCHINSON, VICE PRESIDENT - FINANCE, POWELL CONSTRUCTION, JOHNSON CITY, TENNESSEE

Mr.HUTCHINSON. Thank you, Mr. Braley, Mr. Davis, the committee. It is an honor to be here this morning from east Tennessee to speak with you.

Our companies engineer, construct and automate coal preparation facilities in the Eastern and Central U.S. bituminous coalfields. We also manufacture and rebuild solid liquid separation centrifuges widely used in coal preparation throughout the world. With huge fleets of trucks, large mobile cranes, hundreds of units dependent on petroleum fuels and an annual fuel budget of over $1 million, we are certainly concerned about energy prices and its stable availability, but I am not here today to talk about our individual problems. I am here today to speak with you regarding one of America's greatest and most abundant sources of energy for yesterday, today and the future, that being coal.

U.S. energy sources today consist of oil, approximately 39 percent natural gas, approximately 24 percent coal, 23 percent—or 1 billion tons—per year, nuclear 8, hydropower 3, and other 3. These same percentages are also very similar on a worldwide basis. As Mr. Davis said, coal is indispensable for the production of electricity and steel. Other key uses include cement, paper, limestone industries, and industrial heating.

The technology is now in place for coal gasification, a process whereby coal is converted into a syngas and is itself a fuel. In this process, coal is reacted with oxygen at high temperatures with the advantage that more of the energy in the fuel is extracted. It may then be burned in internal combustion engines used to produce methane gas or to convert it into a synthetic fuel. Today, I would encourage all possible tax incentives to promote increased research and development in this area.

U.S. coal reserves stand at 275 billion tons, an amount that is greater than any nation's in the world. This includes reserves at active mines and estimated recoverable coal reserves. Our Federal Government is, by far, the largest owner of the Nation's coal beds, particularly in the West. To emphasize, these reserves are available right here at home in 38 U.S. States not dependent on importation. These reserves are capable of meeting domestic demand for more than 285 years at the current rates of consumption.

In addition to this nearly 300-year supply, there are additional demonstrated reserves of approximately 250 billion tons available for future mining. Coal reserves at existing mines by selected States include, in the West, Wyoming, almost 8 billion tons; West Virginia, almost 2 billion tons; Montana, 1 billion tons; Kentucky, 1 billion tons; also, Alabama, Illinois, Indiana, Ohio, Pennsylvania, Tennessee, Virginia, and obviously others.

In the U.S., coal-fired power plants account for over 56 percent of the electricity generated. In recent years, 90 percent of U.S. coal is consumed for the generation of electricity. As I said, this is, roughly, 1 billion tons per year. 9 percent of U.S. coal is exported to 40 foreign countries. In the Southeastern U.S., the Tennessee Valley Authority operates 11 coal-fired power plants, producing 60 percent of TVA's power, providing a capacity of 33,000 megawatts

of electricity to 158 locally owned distributors in seven States and serving 9 million customers.

During World War II, our Appalachian coal mines, specifically mines in southern West Virginia, provided abundant metallurgical coal supplies for the production of steel that were used to make guns, planes, tanks, et cetera, that were required for the war effort and that were significant to the outcome of that conflict.

Other coal reserves throughout the world: U.S., 275 billion; Russia, 173 billion; China; India; and Australia.

Coal is also widely used throughout the world for the production of chemicals and fertilizers. The types of coal mining include underground mining that is predominant in the Eastern U.S. and surface mining that is predominant in some Appalachian areas but more so in the West.

Coal use has grown in recent years because of secure, abundant domestic reserves and relatively low prices. Demand has been maintained through increasing mine productivity, larger mines, technology for more efficient systems, and fewer mine personnel. Also, great advances in clean coal technology have been accomplished since 1985 with contributions from the Federal Government and also from the coal industry, itself.

Giant strides have also been accomplished in the area of miner safety. Currently, development is underway for underground safe houses and GPS location devices. Tax incentives for development of these systems would certainly aid this effort.

Nationwide, currently, there are approximately 90,000 coal mining jobs. These mining jobs support another 250,000 additional jobs. The coal mining industry, as a whole, provides many jobs directly or indirectly to east Tennessee, southwest Virginia and eastern Kentucky. These jobs are in the form of not only coal mine jobs but also in construction, manufacturing, engineering, sales, marketing, and consulting. The Powell Companies alone with whom I am associated, headquartered in Johnson City, Tennessee, provides over 500 jobs regionally to the coal industry.

History indicates that each significant action of government was accomplished with an immediate and negative effect on coal production. However, the reverse is also true. That is, positive governmental encouragement will likely result in the capital investment necessary to sustain future production at or above current levels. That is what we should all strive for.

Thank you all for this opportunity to speak to you today regarding the coal industry. No matter what the future holds for America's energy needs, coal must be there along with oil, water, wind, natural gas, nuclear, and biofuels. In my final statement, I will say, "Why not coal?"

Thank you very much.

[The prepared statement of Mr. Hutchinson may be found in the Appendix on page 51.]

ChairmanBRALEY. Thank you, Mr. Hutchinson.

Before we get to the questioning of witnesses, we have been joined by our colleague from Brooklyn, New York, Yvette Clarke, and I will just ask if you have any opening remarks you would like to offer.

Ms.CLARKE. Not at this time, Mr. Chairman.

ChairmanBRALEY. Thank you.

For the questioning of witnesses, each member will have 5 minutes for questioning. We may do more than one round of questions, and I will begin the questioning at this time.

Mr. Breitbach, you spoke about the importance of tax incentives in spurring growth in biofuels. We know that the biodiesel tax incentive was first established in the Jobs Creation Act in October 2004 and was extended in 2005 and will expire in 2008.

Can you provide the committee with some idea of the state of your industry prior to the passage of this biodiesel tax incentive?

Mr.BREITBACH. Chairman Braley, that tax incentive created the legs to get the biodiesel program going. We need to continue that as feedstock costs have risen from the industry start-up date, the feedstock industry 10-year average. Bean oil, 18 cents today, 41-1/2 cents per pound. If we could get the feedstock under control and get our product marketed and sold, we may not need it, but as of right now we need it to keep our legs and to keep our stride going.

ChairmanBRALEY. One of the follow-up questions I had for you is how this tax incentive has impacted biodiesel growth and demand in Iowa.

Mr.BREITBACH. Oh, it is huge, sir, huge.

Without that tax incentive, our group in Farley, Iowa would have not pursued this matter. We could not have done it without it. We need it to keep our industry going, to keep our legs under us, and again, with the rising cost of feedstock, it is either we have help or we are going to have a dying industry before we even start.

ChairmanBRALEY. One of the things that people often do not appreciate is the interplay between a number of these incentives in various sectors of the renewable fuel economy in Iowa where crop rotation between corn and soybeans has been a fact of life for years. We have seen the phenomena where, as ethanol prices create demand for corn, it leads to the planting of more acres of corn, which impacts the price of corn. It also impacts the price of beans as fewer acres are planted in soybeans, and then that has an impact on your business.

So can you talk a little bit about the interplay of the policies that are set here in Washington and how that affects long-term planning for your industry?

Mr.BREITBACH. Absolutely, Congressman Braley.

With that saying, farmers—again, staying in the crop rotation, farmers normally plant soybeans and then the following year plant corn. Soybeans are a natural nitrogen. With the price of corn going up, farmers are stepping away from the crop rotation of beans and are putting corn on corn acres and are putting more nitrogen in the ground, nitrogen fertilizer of course. With that saying, it is shrinking our soybean market, or soy oil market, which is driving up costs. So that is—again, I hope I am clear on this as to why we need the tax incentive, because the corn-on-corn market is just taking away our cropland for the soybeans and oil industries.

ChairmanBRALEY. Thank you.

Mr. Kelly, one of my first encounters with photovoltaic energy was when my family and I—our kids were much younger—did a lot of hiking and camping out West, and a lot of, for lack of a better

term, the outhouses in national parks and in national forests have a decomposition that is sometimes fueled by solar panels.

As you look at the future of solar energy, can you talk to us about some of the unique applications you see on the horizon? I know you have shared some of those innovations with us, but as we look toward providing incentives for the next generation of Americans, what do you see on the horizon as being impacted by the decisions we are making here?

Mr.KELLY. There has been a sea change, if I may use such an expression, in the attitudes of solar expectations. We are acquiring a company called InTech in Keller, Texas. It is a high-tech supplier of solar technology for space probes and space shots. We are going to take their space technology and bring it down to earth. We are utilizing this new technology to build farms.

Before 18 months or so ago, there was not the idea of solar farms because everything was just too big. You had to have too much space that was required. You could not create the big numbers of megawatts. The largest projects were 1 megawatt. We just have assigned an LOI for 130 megawatts, 130 megawatts in Spain. We are in discussions with others in Texas and in California and Nevada for huge megawatts. I am talking 50 megawatts solar. This was unheard of.

The reason that it is happening is because there has—through such tax incentives that you are talking about here, through the interest that Congress does show in the renewable energy and in solar, there is now concentrated interest on developing new technology capabilities. We have just had another company invest in our company, a company called EMCORE. They are another solar, high-tech supplier to NASA for the space shuttles, and the American satellites that are being propelled in space are run by this company's cells, okay? EMCORE has a little bit of a dot. I am telling you it is not more than an eighth of an inch in diameter. Well, you can concentrate this 500 to 1,000 times. They are moving in with us now in our R&D. We are taking much larger quarters next week as a matter of fact.

The R&D from EMCORE and the R&D from InTech and the R&D from WorldWater are all going to be working together. We are going to have this three-legged stool. We are going to take the cell that is used in space, this tiny, little dot. We are going to use the optics that have been developed which are unsurpassed by the InTech group down in Texas. Those two will combine to create 1,000 times the energy that would be in a standard cell. We, with our conversion devices, are able to then—and control devices—able to translate that energy, that concentrated energy, into working power. We will be able in a matter of 2 or 3 years to generate all the power required for a city of 10,000, 20,000 or even more, and it will not be this huge amount of space. We could do a city of 20,000 with this new technology that exists, okay? We need to do just a little bit more shining on it, but it would take, maybe, 10 acres, 10 acres to do a city of 20,000. This is a transformation. This is the future of power, I believe.

ChairmanBRALEY. Thank you.

Mr. Zuhlke, with all the data that has recently been released on global climate change and the importance of green energy produc-

tion that has increased correspondingly, as Congress debates the details of carbon control programs, can you share with the Subcommittee what your company is doing proactively to generate electricity from alternative sources?

Mr.ZUHLKE. On the renewable front, we have been involved with what I will call the growing up of the wind industry in the Upper Midwest for a period of time. We will invest in wind between now and year end 2010, nearly $1 billion in wind technology in our service territory.

I talked a little bit about the on-farm digesters. Again, the wind does not always blow, so we are looking for resources that are a little more reliable on a 24-by-7 basis. So, as to the on-farm digesters, we think there is potential. As I discussed today, we have four in the portfolio today. We think that could exceed over 30 or 40 in the next couple of years given the right environment to overcome some of these barriers.

ChairmanBRALEY. Can I just follow up on your on-farm digesters comment?

Mr.ZUHLKE. Yes.

ChairmanBRALEY. With a lot of new technologies that can benefit individuals or small businesses—in the case you are talking about, we are talking about a lot of small farm operations or mid-sized farm operations—sometimes there is a reluctance to move to adapting new technologies that may offer a lot of potential.

So, when you are talking to farmers about digesters that are going to be a part of your energy portfolio, can you share with us what type of feedback you are getting, what kind of response you are getting, what type of challenges you face in convincing them to look at adapting to some of these new technologies?

Mr.ZUHLKE. Envision yourself going in to your banker and saying, ″I want to invest in an anaerobic digester,″ and they want to know and understand what that technology is and how does it work, and what we really need is a John Deere 100 on-farm digester, meaning, a recognized brand with a recognized, proven technology that plugs in. I think that—

ChairmanBRALEY. Since I have about 60 percent of the John Deere production in my district, I will make sure I mention that to them. They are probably going to be very interested.

Mr.ZUHLKE. Clearly, it is one of the technologies that they are indeed interested in, and the on-farm digesters solve a number of problems for farmers, nonpoint pollution issues, the control of nutrient odor, et cetera.

So what happens is, when you have a technology that is solving multiple problems and has multiple benefits, it takes a while for people to get their minds around what it is going to take to get it done.

The bottom line is, someday, somebody is going to put some money down and take a risk because, if it is still in the early adapter stages, we end up with fits and starts, and we need to make sure that people are encouraged to take that risk in making those investments.

ChairmanBRALEY. Thank you.

For the sake of time, I am going to move to Mr. Woolsey and follow up on some of those points.

Mr. Woolsey, it has been very exciting to me. Iowa currently ranks third in the per capita generation of wind energy. Actually, it ranks in the top 10 in wind energy potential. Waverly, Iowa is in my district, and there has been a great partnership between Wartburg College and the City of Waverly, which has been one of the municipalities at the forefront in adapting to wind technology. They have just built a green wellness center that the city and the college are going to share, and the college made a gift of a new wind turbine to the city as part of that partnership. But I also know from talking to a lot of people that one of the major challenges in wind energy production right now is the accessibility of wind turbines, and we have seen a lot of companies moving into this market.

So can you talk a little bit about how the supply and demand of the generation production equipment is impacting what is happening in the industry that you are talking about?

Mr.WOOLSEY. Yes. The demand for wind generation equipment has been rising very rapidly, 25-30 percent per year. There is a shortage of equipment worldwide. That makes your selection more limited. You know, I think the industry is ramping up right now. We are seeing some new players come into the industry. The predominant reason is the Federal production tax credit that is driving the U.S. market, and because it has been extended, you know, 1 year or 2 years at a time, large players have been reluctant to make the large capital investments needed to start new wind turbine manufacturing facilities, and I think that has been the holdup for bringing new players into that manufacturing business.

One of the constraints right now is on sub component manufacturers. There are over 800 individual components in a wind turbine, and it takes a while for those industrial manufacturers to ramp up, but I think we are seeing it happen rapidly. I think there are some new technologies in the wind generation business that are going to be exciting, and a lot of them are seen in Iowa right now and the Midwest.

The U.S. is a very good marketplace for wind. Basically, in the European market, they are starting to run into NIMBY problems. Offshore applications have a lot of potential, but they are expensive. So the U.S. is going to continue, I think, to see a large demand. I suspect that we will start seeing wind energy move into supplying electricity and to our transportation sector in the not-too-distant future.

ChairmanBRALEY. Thank you.

Mr. Hutchinson, I live in Waterloo, Iowa. There is a large L.S. coal-fired plant on the drawing boards there. It is generating a lot of concern on a lot of different fronts.

What I would like you to do is to talk about some of the things that the coal industry is doing to respond to some of the concerns about global warming and how your technology is adapting some of the things you were talking about in terms of coal gasification and other innovations. Just from your industry's perspective, if you would be good enough to share with us some of the innovations you see that are responding to those concerns and that are a proactive approach on behalf of the coal industry.

Mr.HUTCHINSON. Okay. Well, first of all, I guess, in the mining process, in the preparation plant end of it, there is quite a bit of new technology involved in removing some of the harmful things there. That is in the preparation plant. When it gets to the coal-fired power plant, obviously, there are scrubbers, and so forth, who remove the particulates and the sulfurs, and also, they are gearing more toward the low sulfur coal in certain areas where that is possible, but with the mixture of limestone and water into the flue gas that comes off of these power plants, they are able to reduce most of those emissions by somewhere in the 98 percent range.

ChairmanBRALEY. Thank you.

At this time, I will yield to the ranking member. Please feel free to take the time you need. Given the turnout today, we want to give everybody on the panel an opportunity to respond to some of the issues, the important issues that brought us all here today.

So thank you, Mr. Davis.

Mr.DAVIS. Thank you, Mr. Chairman. I would like to thank the panel again. You have offered some great insight, and I appreciate that.

I would like to start with Mr. Zuhlke if I could.

Has the USDA offered any indication lately that they will review their conservation reserve program so that more crops, such as switchgrass, can be grown for production?

Mr.ZUHLKE. Well, we have certainly had those discussions, and the proposal that I have just described has surfaced. I do not know where that is going to go, and I do not know what the final answer is going to be, but our concern is that, since we have all of these thousands of acres in CRP today and we are going to see a lot of that torn up and go into row crop production, we just see an opportunity to maximize it. In the coal-fired coal plants that we are proposing, both of those could utilize between 50,000 and 100,000 acres of switchgrass. So, when we describe the potential here, it has a material impact to the local economy and to the local water quality, et cetera.

Mr.DAVIS. I have met with and have received a great deal of information from Dr. Kelly Tiller, from the University of Tennessee, on the subject of switchgrass. She has done a lot of research on that.

In your part of the country, how close are you to actually using switchgrass as an energy source?

Mr.ZUHLKE. We are doing it today, and we have been for about 3 or 4 years in a coal-fired plant that was never intended for switchgrass. We did a retrofit on a baseload plant, and we basically have a proof of concept that it can work even in a retrofit sort of situation.

We think what will happen is we will go into a coal-firing basis now in these new plants from day one, design day one, and then we suspect, as we create switchgrass markets, we will probably transition from the cellulose being burned in the power plant to, maybe, a liquid fuel later on with the conversion of cellulose to ethanol.

Mr.DAVIS. Thank you.

Mr. Hutchinson, I am a strong supporter of expanding our renewable energy fuel base. I think we have to look at all options and not take anything off the table.

That being said, I feel like coal has to be in the mix, personally. How has the coal industry changed recently in terms of national economics and even worldwide economics, and where do you see coal going in the future?

Mr.HUTCHINSON. Well, I think here in the past 3 to 5 years, the demand for energy, new energy sources, has increased very late, and coal has stepped up to the plate and has been able to satisfy the demand. Actually I believe right now that demand has dropped a little bit. If you look at the coal prices, they have dropped in the past year. But the coal was able through these larger mines to increase preparation facilities in order to meet the demand that arose here in the past 2 to 3 years.

Mr.DAVIS. What do you think happens to our economy if Congress makes decisions that actually harms coal production in the future?

Mr.HUTCHINSON. Well, you can go back to my report and look at some of the statistics. Right now we have no substitute for electricity that is being produced in this country. This coal is here. It is available. It is readily mined. It is being mined, and it is here to satisfy our needs, particularly on the electricity side and steel manufacturing side. Right now I know of no substitute in the immediate future.

Mr.DAVIS. Do you believe that we can go from a coal-based economy basically if we are looking at domestic fuels to only renewable, and if so, how long do you think that would take?

Mr.HUTCHINSON. Personally, I don't think you could. I think, with the availability and the relatively low price of coal, that coal will always be a big player. And I am listening to all of these other alternatives today. I am very interested in all of those, but I think the bottom line is for the future, we need all types of energy in this country we can achieve. Obviously, if something drastic happens in the Middle East, and our foreign oil supplies are shut off, we are going to be—we are going to be in serious trouble in this country and looking to all sources, including coal, to supply our needs.

Mr.DAVIS. That is a great segue.

You talked about our dependence on foreign oil. I served on Homeland Security Committee as well, and that is something that is at the top of mind for me is our dependence on foreign oil. I appreciate everyone on the panel doing everything that we can to becoming energy independent and using domestic supplies.

With that being said, you mentioned coal gasification and actually being able to take coal and take it into a gasoline-type product. I think they were doing that in Germany as early as World War II. Can you expand on that?

Mr.HUTCHINSON. That is true. That has been in effect for a lot of years, but the increase of it is now, and I think there is actually some large coal gasification plans on the tables right now for the Appalachian regions. So it will be a bigger player in the future, hopefully.

Mr.DAVIS. When you look at OPEC, I see them being able to adjust prices, so it affects everyone on the panel, I think. To manipu-

late our markets, is there some level that we need to make sure that energy prices stay at so each one of you are protected from foreign oil, Mr. Hutchinson? And then I will let everybody else take a stab at that, too.

Mr.HUTCHINSON. I am not sure I follow your question. Some level of what?

Mr.DAVIS. Basically is there some level of pricing—because I have seen OPEC since the 1970s, when I see the economy, when they say some other type of alternative fuels start to come on, coal, switchgrass, wind, water, whatever, OPEC has the ability to regulate prices, we go from $3 a gallon to 97 cents a gallon.

Is there some floor that we need to help as a Congress that when you put those dollars in investments, that your investments are protected for the future?

Mr.HUTCHINSON. I am not sure I am qualified to answer that question. Maybe someone else on the panel is.

Mr.DAVIS. Okay. Thank you.

Mr.ZUHLKE. I don't know as though I have a number that I could respond to, but I would give you a real-life example of the way we would view the impact.

We have a very large fleet that is dedicated to keep the energy flowing in Iowa. We use a lot of diesel fuel to keep that fleet rolling. We are in the middle of transitioning to—our fleet to the use of biodiesel. I look at West Dubuque Biodiesel in terms of our ability to utilize that fuel depends upon those incentives they are producing.

Right now our barrier is not proof of concept, it is not whether or not it works in our trucks, it is just getting the supply, and then we will be using it.

Mr.KELLY. I would make reference to kilowatt hour pricing, I think. And, yes, what you are saying is absolutely true. The manipulation can be easily demonstrated from—you know, by OPEC and so forth.

Your kilowatt hours ultimately that the people pay, whether it is commerce or residential, is the key feature. We in the solar business are bringing that number down to what I was talking about a few minutes ago when I was speaking about this three-legged stool of the new technologies of three small businesses.

But we will be able to come in with kilowatt hour prices that are every bit as good within a short period of time as the—as what prevails, and I am talking—you know, your prices may run all the way from 5 or 6 cents a kilowatt hour up to 15 or 20 or more. We recently—we are actually bidding on a job now at 6 cents.

So, I mean, solar is coming in to be a big boy here and a big-time player. If you can come in at numbers like that, you are able to compete, and that has significance, I think, with respect to oil prices.

Mr.DAVIS. Thank you. That is all I have.

Mr.BRALEY. At this time I would like to recognize the gentlewoman from New York.

Ms.CLARKE. At this time I would like to thank the distinguished chairman for holding this hearing today as we examine the impact of the energy tax policy on small businesses.

As has already been stated, I am from Brooklyn, New York. You may wonder why is a city gal sitting on this panel? As the granddaughter of a sugar cane farmer, I am intrigued by the renewable energy movement that is now taking root in our Nation. I am excited about this next wave of industrial manufacturing in pursuit of sustainable renewable energy, and I want to do all that I can in my capacity to serve as a catalyst to generate as much incentive as possible to get us into the renewable energy age in this generation, or at least in my lifetime. God willing that will be long.

I just learned this morning from the Associated Press that in the great State of New York, a renewable energy task force has identified several barriers to developing renewable energy technology. This task force has confirmed that the complex local governments, their regulations, lack of resources and strong competition from neighboring States has contributed to some of the problems as to why New York may face some difficulty achieving its goal of generating 25 percent renewable energy by 2013.

As of now, the 41.3 million funding in the renewable portfolio standard is not sufficient to change New York's energy use.

I want to ask you gentlemen if the RPS program was created to improve energy security, help diversify the State's electricity options and increase economic opportunities in the renewable energies industry, how can I help my State to create a vision to develop policies that will make us more competitive with States such as California, Connecticut, Massachusetts and Pennsylvania for businesses attracted to alternative energy sources?

Did you get that? It was kind of long.

Basically, what would a State like New York, who is really struggling right now to really galvanize its industry, do at this stage to help create a vision and help develop policies that will make it competitive, that would attract business to the State that many of you already are involved in—with the exception of coal; I don't think we have any coal in the State—to really attract businesses that would generate alternative energy sources?

Mr.KELLY. If I may speak for a moment on that. We are talking to some of the larger developers in New York City now, and the idea being that with the new technologies, you can build in your construction in the buildings, the big buildings in New York. You have got so much opportunity. For example, again, I am obviously speaking about solar, but the impact that you can have on the economics is getting to be rather strong, and that would be a draw, I think.

If there were—you are in New York, and you are able to get some benefits for—particular benefits for solar in the construction of new buildings, I am talking some of the bigger buildings, too, which we are discussing about in Jersey City right now and out on Long Island, I think that would have significant, you know, impact.

Mr.WOOLSEY. You have got the—carrot-and-the-stick approach. You have got a very good RPS in place right now. If you put some teeth into that RPS for nonperformance, you will have compliance at some cost.

The other idea is to use the carrot and providing term contracts at sufficient prices to get developers to come in and sign agreements, sign long-term power purchase agreements for clean elec-

tricity or the purchase of cellulosic ethanol or sustainable biodiesel, with the State doing that or entity that has deep enough pockets that a developer can take that contract, and go to the bank and get money, put those plants up and start the production. That is the other option.

So I think you guys are on the right track.

Mr.ZUHLKE. My only thought would be whatever you use, try to extend it for—give it a certain time, certain length of period of time. If we have any lessons learned in this industry, it is the on again, off again on tax credits, or the on again, off again on terms of incentives.

The people who build the equipment just can't figure us—this industry out, and they just don't have time to design, build and get it into the pipeline. So longer-term signals on purchase power agreements is extremely valuable to getting something done.

Ms.CLARKE. Thank you, gentlemen.

I wanted to ask when the House focused on energy independence day initiatives, it was this committee's goal to provide financial assistance for programs such as the Small Business Development Center, to provide support to small businesses to evaluate energy efficiency and green buildings opportunities, securing financing to achieve energy efficiency and to help these businesses improve environmental performance.

Can you tell us how the increased loan limits of small businesses will help these companies reduce their energy costs and become more energy efficient?

Mr.KELLY. I am sorry. The reduced loan charges to whom?

Ms.CLARKE. For small businesses.

Mr.KELLY. In other words, if I am a small business, if I could—if it was easier for me to get a loan?

Ms.CLARKE. Exactly.

Mr.KELLY. Sure. But in the banking, I can tell you that we have tried to get a line of credit, for example, never. No matter what, we could not get lines of credit.

I now have millions of dollars in the bank, and only now are they ready to start giving us a line of credit.

So, yes.

Ms.CLARKE. Why would you say this is? What is the mentality out there in the lending community when it comes to renewable energy in particular with small business?

Mr.KELLY. I think that the bankers ultimately will not write any checks for something that they consider is not really mainstream, and renewable energy is not mainstream.

So we are working our way in there. We are really muscling our way in, and I have seen that difference in the last year now, but it is because we are growing and getting forceful in what we are doing on all renewable.

And solar I will speak for, but the banks, I mean—

Ms.CLARKE. Do you see venture capital being attracted to this area?

Mr.KELLY. Venture capital is clearly coming in, and that is where there has been a major attitudinal change. They are now coming in, and I am getting a lot of requests for people to buy our stocks. I get two, three investment groups a week saying, we will

buy your stock. But the banks aren't doing it. I want a line of credit. I don't want to give away my stock.

Ms.CLARKE. Thank you very much, Mr. Chairman.

Mr.BRALEY. Let me follow up on that, Mr. Kelly.

One of the questions that Ms. Clarke raised was the whole issue of the 25-by-13 incentive program in New York, and a lot of us are familiar with a lot of different variations of that.

There is a group called 25-by-25 here in Washington advocating that 25 percent of our energy be derived from renewable energy resources by 2025.

Has your industry been involved with any of these efforts, and can you tell us what you believe the contributions your industry can be to achieving that goal, assuming that the proper energy tax incentives are afforded and extended beyond the current law?

Mr.KELLY. I think one quick way would be what I think you have in your bill, that utilities, electric utilities, be given this 30 percent Federal tax credit availability.

In New Jersey we have a—an RPS of 90 megawatts before, I think, the end of 2008 or 2009, and it is a struggle to get there. The utilities would, I think, would jump on something like this, and I do think you have this as a part of your new bill. That is very important. I think that will open up a whole lot of new business. Just as I was talking about what the tax credit did for—to really jump-start everything through PPAs for us, the power purchase agreements, you would have the same thing with the utilities. So I think that is very important.

In conjunction with that, if I may actually kind of put our oar in here. The tax credits need to have that extension of time. You have got to have a minimum of 8 years, or the investors will not—they don't like to come. They will come if they know that there is some stability there, at least 8 years on that tax credit.

If you—the other subjects, very fast, that I would just put across to you, Mr. Chairman. The interconnection, okay, with the distribution lines, very important.

The Federal procurement mandates. We are now talking to HUD. HUD has—we demonstrated. We spoke to HUD and had a very nice response from them. And I basically said, we can present the whole power spectrum to you from your heating, your hot water, your HVAC, your electricity, and we will run all of the motors and pumps in your projects, and we will save you 25 percent. And that is now—you know, it is going through a process. But that is very real.

So the government is the biggest owner and the biggest builder and the biggest energy buyer. There should be something there. And that would really have very visible and palpable impact.

Then also in your grants to the States for infrastructure. If you would say some of that needs to be renewable, that would also do.

Mr.BRALEY. Thank you.

Mr. Breitbach, one of the earlier hearings we had in this Committee on renewable energy and its impact on small businesses, Bob Deneen from the Renewable Fuel Association came in here and identified the renewable energy production in every member of the full committee's congressional district, and that was a very impressive performance. And one of the things he did was point to Ms.

Clarke and talk about the use of recycled cooking oil as a component of the renewable fuels industry. And we know that one of the things that does has potential, especially in biodiesel production.

Can you share with us some of the innovative things that are being done in biodiesel beyond just the derived biodiesel production from soy beans?

Mr.BREITBACH. Biodiesel can be made of other oils and also white grease, white cooking grease. Animal fats can create biodiesel. At this time the soy bean oil is the most economical, best product to use in making biodiesel.

The inputs on the animal fat side is a little tougher, a little tougher to work with to get your ASTM standards biodiesel out of. That is why the choice is the oils.

Referring back to Ms. Clarke's question on going to the bank and getting the money, we are seeing a slowdown or a stoppage of biodiesel plants, as you well know, Mr. Braley, because of the prices of our feedstock, because of the return on investments. The investors aren't coming out. The banks aren't jumping on board because we don't have a standard. You know, as these gentlemen on the panel say, 2 years, nobody wants to take a chance on a 2-year program.

So as I must say, we sure need a renewable fuel standard so we can get these investors out so we can get the banking and the financial institutes behind us.

On biodiesel, Congressman Braley, yes, there is all kinds of new technology coming out. They are talking about corn oil, the back side of a corn oil, TDG, making biodiesel out of that. There are all kinds of new technology coming out.

Ms. Clarke, as you were saying, how can we push New York? A standard. A renewable fuel standard that mandates New York uses 2 percent biodiesel to get that State in the renewable fuels program.

Mr.BRALEY. One of the things that I hear when I talk to people who are on some of the cutting edges of wind energy technology is the problem of storage and retrieval of electricity generated from wind production so that you can get it back onto the grid during peak demand times. And I have heard a lot of the innovative ideas that are out there on how we can accomplish that; but, as you know, and listening to every member on the panel, the research and development that goes into that technologies that leads to actual cost-effective ways of delivering that type of a result is what is a big challenge facing the people in your industry, especially small business owners.

Can you talk a little bit about some of the issues that relate to not just the production of wind energy, but the storage and retrieval to meet these peak demand periods?

Mr.WOOLSEY. There is, of course—the wind doesn't blow at one location all the time. However, when you look at the weather patterns coming across the plains or across the United States, if you diversify the location of your wind generation, you will have wind blowing and supplying electricity at almost any point at a time. You will be able to have electricity and—provided you can transport it to where you need it.

The idea of putting a disbursed generation pattern out there on the land allows you to use the smaller lines, the distribution grid more readily. The existing capacity that is available on that versus the transmission lines, the larger lines that transport larger amounts of electricity, you locate that generation closer to where the loads are, closer to where you need the electricity, and consequently you save a lot of line losses in electricity and transporting that—a product.

Right now some very exciting things are going on right now with making—turning electricity into ammonia, anhydrous ammonia, actually capturing nitrogen from the atmosphere and fixing it and using that as your storage system. NH3 is one of our most densest hydrogen carriers that we have. We now have irrigation engines that have been converted over from diesel fuel over to anhydrous ammonia running those pumps. This technology will also be able to be used in cars.

We have a pump storage compressed air project that is under way right now where they take electricity when they don't need it and pump it and turn big compressors, pump the air down into the subhorizons of the Earth's strata. And then when they do need it, they can pull that air back up, turn the turbines again, and use that as a very significant storage medium. You can also use that electricity to make hydrogen and use that as a storage medium.

As it becomes more clear to people and company corporations that this is going to be a very necessary technology for the future, we are seeing some very innovative and very exciting technologies move in that direction. And I think this small business aspect of this is critical for you folks to take a lead on this. I think it will be the determining factor on whether the industry is all owned by the old Big Oil folks or whether we tap the entrepreneurial creativity and ingenuity of America.

Mr.BRALEY. Thank you.

At this time, I will yield to the Ranking Member for any additional comments or questions he wishes to share.

Mr.DAVIS. I want to thank you for being here today. It is very helpful for us to know that we have great minds working on our energy independence. Thank you for your willingness to travel to Washington.

Mr.BRALEY. Ms. Clarke, any further questions?

Ms.CLARKE. No.

Mr.BRALEY. One of the things that we know is that the consumers and small business owners all over the country are very interested in what we are talking about here today. We want to thank you for taking time from your busy lives to join us today, and we do have votes pending, but I would like to give each one of you a minute to make any closing comments or any additional remarks that you would care to share with us.

Mr.KELLY. First of all, I would like to say thank you one more time. We need to have an audience such as yourselves. We go back to our respective locales, and we can rage, if you will, but not get anything done, and where you get it done is here and with you.

There are ways to really, I believe—I will use a pun here, but to electrify what we can accomplish through—it is through you to give the true encouragement through tax incentives. They work.

And if you can do some of the things that I was saying, from our point of view, that would be hugely helpful not just to world order, but to all solar companies and certain other renewables, too.

Mr.BRALEY. Mr. Breitbach.

Mr.BREITBACH. I would like to thank the committee as well for taking the time to listen to us and listen to our concerns and voice our concerns.

As Mr. Kelley said, it is up to you guys. We look to you to help us out. In any way we can help you out, we sure would.

Ranking Member Mr. Davis, you asked a question, and I didn't get a chance to get in on it, but you said what could we do, is there a number on it? Well, me and my constituents, we put together a countercyclical payment program that I am going to get copies out to everybody, and it puts a floor on it for biodiesel. It is a great countercyclical payment program, and I will get that out to you gentlemen.

Thank you very much again.

Mr.BRALEY. Thank you.

Mr.WOOLSEY. I thank you all also.

I think in using the tax policy to internalize the external costs and benefits of the industry that we are working in I think is vitally important. You know, the costs associated with health care, with the military, with carbon—fossil carbon additions, you know, to be able to use the tax policy, to actually start to quantify those is going to become a much more complicated and, I think, important task as we go forward.

The biofuels, I think, is going to be especially interesting to see that accomplished. There are so many different criteria that go into producing something like biofuels or any of the other renewable energies. It is a complex process, and tax policy, I think, is probably the appropriate place to be able to nuance the benefit and the value that we count on these products.

Mr.ZUHLKE. Mr. Chairman, you asked earlier about global warming, and I would just comment from the standpoint you probably heard the expression before there is no silver bullet; but we are going to need to use silver buckshot, and there is going to be many, many answers, and a diverse fuel supply and a diverse solution is in indeed in the offing.

You have every reason to be optimistic. When we touch—from coal gasification to sequestration, to solar applications, to energy storage, to converting the way we do our transport, there are tremendous amounts of energy and human capital going on in this business, and you have every reason to be very, very optimistic. There is many, many technologies that makes your job in your committee hard because there are so many things going on. But there are lots of reasons to be optimistic about the future.

Mr.BRALEY. Thank you.

Mr. Hutchinson?

Mr.HUTCHINSON. Thank you again. Thank you very much for inviting me here today.

Just to wrap up the coal presentation, as I said, I think it is a major player for years to come. There are billions of tons of reserves right here in the country that we don't have to worry about the foreign world situation or anything of such. And the prices are

competitive; the mining is available. Working in conjunction with some of these new alternative fuels, I am sure you guys will come up with some methods that benefit all of these industries that we have talked about here today. And certainly don't forget coal for what it has done and for what it will do for us in the future.

Thank you.

Mr.BRALEY. I ask unanimous consent that Members have 5 legislative days to enter statements into the record.

Without objection, so ordered.

Mr.BRALEY. I want to thank the witnesses again, and the hearing is now adjourned.

[Whereupon, at 11:07 a.m., the subcommittee was adjourned.]

September 26, 2007

STATEMENT
of the
Honorable Bruce Braley, Chairman
Subcommittee on Contracting and Technology
House Committee on Small Business

Hearing on "Small Business Renewable Energy Tax Incentive Possibilities"

I call this subcommittee hearing to order to examine the issue of small businesses and "Renewable Energy Tax Incentive Possibilities."

The notion of modifying our tax policy to reflect the economic needs of our nation and of small businesses is critical. Nowhere is that more clear than when we talk about energy policy. Since the 1900's, the tax code has served as the primary tool to shape energy priorities in America.

Today this subcommittee will have the opportunity to explore how tax incentives can play a role in promoting renewable sources of energy. The panel here shows us small businesses can play an important role in this effort.

Over the last two decades, small businesses have been at the forefront of renewable energy production and growth. Whether it be the growing number of small biodiesel or solar facilities or farmers providing inputs, small companies are leading the way in shifting America towards clean domestic supplies of energy.

While there has been significant growth, renewable energy continues to make up only 7 percent of the energy produced and consumed in this country. As for renewable fuels, they make up only 1 percent of this energy. In order to improve upon this, it is critical we have the proper federal policies in place.

The bottom line is that if we are to stimulate investment and production in alternative sources of energy, we must have tax incentives. These measures will not only encourage investment in new technologies, but make it financially possible for renewable energy producers to operate and expand.

I am optimistic alternative sources of energy will continue to grow due to the fact this Congress has already taken steps to encourage greater production and use of clean domestic supplies. Recently, the House passed its comprehensive energy bill that included a number of measures to promote renewable production. It includes tax incentives that place a higher premium on new technologies and production that will further the next generation of renewable energy.

I supported this bill because it invests in America's future through renewable energy like wind, solar, and hydro power, and other clean fuels. It puts small businesses front and center in this effort, and it develops a framework for renewable energy to grow. The tax policies in this legislation will help small producers address many of the challenges that exist in renewable energy production.

Earlier this year, this subcommittee held a hearing on "Meeting the Workforce Demands of Small Bioenergy Businesses." And I am extremely pleased the Farm Bill included a renewable energy workforce education program that was first outlined in the NEW ERA Act I introduced in February. We must secure our nation's energy future through efforts such as tapping into biofuels, wind, and solar, and by training our farmers and workforce for bioenergy production.

We also know that the viability of renewable energy producers is dependent upon having modern technology. All of these challenges threaten the financial viability of renewable energy production. With the proper tax incentives we can help producers overcome some of these challenges.

We must have economic policies that will help bring stable energy supplies and create jobs here in America. In Iowa alone, the exploding renewable energy sector has created thousands of jobs. As of early 2005, it was projected ethanol could create over 5,000 direct and indirect jobs and pay $82.4 million in wages per year. With further improvements, these numbers underscore the potential for additional opportunities for small businesses with the proper tax incentives.

The time to act is now. By switching our energy focus from the Middle East to the Midwest, we can transform our energy economy and improve our international security. There is a promising future for the next generation of bioenergy, including great potential for growth in the evolving cellulosic industry.

At a time when this country is facing record energy prices, it is critical that we continue to develop alternative energy supplies. Small businesses can help us achieve this goal, but only if they have the right tax priorities to make it happen.

If we truly care about the security of our children's future, we need to continue pushing the envelope on the bioenergy economy; reexamining our energy tax priorities will be a huge help. I look forward to today's discussion.

I now yield to my colleague and friend from Tennessee, Ranking Member Davis, for his opening statement.

Opening Statement
Congressman David Davis
"Small Business Renewable Energy Tax Incentive Possibilities"

House Committee on Small Business
September 26, 2007

I would like to thank all of the witnesses for attending and contributing today to this very important hearing concerning Small Business Renewable Energy Tax Incentive Possibilities. I would like to especially thank Mr. John Hutchinson who traveled from Johnson City, which is located in my district in Tennessee, to be with us here today. Again, thank you to all the witnesses, we are eager to hear your testimonies.

No matter where you go nowadays it is impossible to escape the reality of the extremely high energy costs faced by Americans on a daily basis. The simple act of filling up your gas tank has become a painful experience for many Americans due to the high cost of fuel.

A great many American families are dreading the winter season due to the high costs of heating their homes that will come with it. Additionally, small businesses are taking a huge blow due to the fact that increased energy costs are greatly affecting their bottom line.

For some time now everyone has known that the strife faced today caused by high energy costs is due to the fact that America is far too dependent on foreign sources of oil. And for some time now much effort has been put into developing alternative sources of energy to diminish the necessity of America's reliance on oil that often comes from volatile areas such as the Middle East and Venezuela.

Great strides have been made in developing alternative fuels, with a large amount of attention being given to renewable fuels. Biodiesel and ethanol have been proven to be safe optional fuels which are derived from seemingly unending sources. Wind energy and solar power also offer great promise in the quest for alternative resources. And, I am certain that further research into alternative energy sources will yield new techniques for producing renewable fuels that most of us here today in this room cannot even fathom.

Some believe that restructuring the Internal Revenue Code to provide incentives for this type of research may help expedite that process. I agree. I firmly believe that simplifying our tax code and offering targeted tax reductions for alternative fuel research, production and consumption can help wean our dependence on foreign sources of energy.

However, in this drive to reinvent the way we produce and consume energy, I think that it is extremely important not to forget the already existing energy source right under our noses. A balanced approach is needed to maintain the high energy demands our country needs to continue growing. Renewables offer a great deal of promise in the very near future, but we must also be able to maintain our current energy production while fostering growth in this exciting new field

For example, coal is indispensable for the production of electricity and steel and is very important in the manufacturing of cement, paper, and industrial heating. U.S. coal reserves currently stand at 275 billion tons, an amount that is greater than any other nation in the world. These reserves are capable of meeting domestic demand for more than 285 years at current rates of consumption. Domestic sources of fossil fuels currently provide us with a reliable source of energy and obtaining them from places such as the Artic National Wildlife Refuge should not be discounted.

Once again, I look forward to hearing testimony from all of our witness today I believe that it will give us great insight to the issue at hand. Thank you all for being here.

"The mission of WorldWater & Solar Technologies Corp is to be the leading provider of solar-powered motors, water pumping and electricity for people throughout the world."

U.S. House of Representatives Committee on Small Business,

Subcommittee on Contracting & Technology

Hearing On

"Small Business Renewable Energy Tax Incentive Possibilities"

Testimony Submitted

By

Mr. Quentin T. Kelly
WorldWater & Solar Technologies Corp.
Founder, Chairman & CEO

Wednesday, September 26, 2007 at 9:30 a.m.

Mr. Chairman, Members of the House Small Business Committee, Subcommittee on Contracting and Technology, other Panelists and Guests.

I am Quentin T. Kelly, Chairman and CEO of WorldWater & Solar Technologies Corp. of Pennington, New Jersey. WorldWater is a small firm of solar engineers and water management engineers, solving power and water problems by utilizing our proprietary solar photovoltaic—PV—technology. This new technology enables us not only to develop and distribute solar electricity but to drive motors and pumps up to 1000 horsepower, repeat 1000 horsepower, from sunshine alone...or in seamless conjunction with the electric grid or diesel generators. Today WorldWater technology is operating the largest solar irrigation system in the world—a citrus ranch in Borrego Springs, California; the largest solar agricultural system in the world – a 1000 acre avocado ranch in Fallbrook, California; the only totally self-sustaining water district in the world, that is, grid power may be interrupted or the district can be disconnected from the grid and the district can continue normal operations from our solar electronics; a half-Megawatt of solar–generated electricity for the Atlantic City New Jersey Water Treatment Plant; and we have just begun construction on the largest PV plant for an airport—the Fresno-Yosemite International Airport in Fresno, California—where we will supply 40% of the electricity required and save the Airport an estimated $13 million over the contract period of 20 years.

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(Classifications B, C10)

Stock Symbol (OTC BB: WWAT)
A Fully Reporting Company

- **Solar Pumps and Motors**
- **Solar Electrical Systems**
- **Water Management**

Visit our web site at:
www.worldwater.com

We are one small business that can point directly to the Federal Energy Bill that instituted the 30% investment tax credit as an extremely significant part of our success. We first implemented that tax credit in 2006 by creating Power Purchase Agreements (PPA's) for third party investors. This investor group funds the installation of our solar technology and equipment for host-customers, who then pay for the electricity so generated for their buildings, airports, water districts, etc. at a discount to the going utility rate. The host-customers pay directly to the investor group, who take advantage of the 30% tax credit plus other incentives from the states and the Renewable Energy Credits which are also generated.

This creates a triple Win situation: the host-customer, corporate facility owner or municipality or water district pays nothing up front and receives a discounted rate for his electricity when it is installed and delivered; the investor group makes some 10 to 15% after-tax return annually, and WorldWater sells a lot more of its technology and equipment, earning much more revenue, and employing substantially increased numbers of workers.

To be specific, we had no PPA business in 2005. We initiated our first PPA's in late 2006, and nearly all of our business in 2007 will be from PPA's. In 2005 we had 27 employees and generated $2 million in revenue. In 2006 we moved up to 40 employees and $17 million in revenue. In 2007, we now have 80 employees and I have given guidance on revenues for the year of $25 million. We have a potential business pipeline of $200 million and much of that will be through PPA's. Next year we anticipate having 150 employees.

In addition to the direct influence on our of this one tax credit of 30 percent, the greatly increased growth of our company through the help of PPA's now enables us to reach and bid for projects in the US and around the world of much larger dollar size and system capacity. We recently announced a Letter of Intent with a Spanish company to install 10 Megawatts of solar electrical power in Spain in 2008, 10 more Megawatts in 2009, 10 Megawatts in 2010 and possibly 50 Megawatts in the following two years. We'll install one watt for $6, so10 MW means $60 million in revenue to WorldWater. We are proceeding to contract on that LOI as I speak, and we have been offered substantially more solar business from other clients in Spain, in the immediate as well as near and long term future.

Our sharp growth in the past two years has also opened other opportunities to advance our technology in partnership with other small businesses. Let me tell you about these advanced technologies, because I believe this may well mark a new map for power generation. We are acquiring a company called ENTECH, which supplies NASA with high tech solar technology used in space exploration. Entech has developed a system concentrating solar cell power 20 times while using only one-twentieth the amount of silicon of a standard cell. They have

created optical lenses unsurpassed in the concentrating business. We will be using this Entech technology specifically in our Spanish business but also in the US in 2008 and onwards...critically reducing the cost of producing a kilowatt hour of solar electricity, and thus decreasing the cost of solar electrical generating plants. We will soon be competitive with the grid in many places without the need for government rebates.

Entech is one technology. We also have another technology to add to the mix through the acquisition of some of our stock by a company called EMCORE. This high-tech space company has developed a dot, maybe one-eighth of an inch in diameter, which when concentrated will produce 500 to 1000 times the energy of a standard, traditional solar cell. When they first showed me this tiny cell, I thought...This is the future of power. Next week, Emcore's R&D team moves in with WorldWater in our vastly enlarged new quarters which we are leasing near Princeton, New Jersey, and together with Entech, we three will develop the following: Emcore's cell concentrated by Entech's optical lenses and translated from energy into working power by WorldWater's electronic control devices. That is what I meant when I said I could see the future of power. This three legged stool of technology, for example, will be able to supply full power for cities of 10 to 20 thousand—from sunshine alone. I expect this to be available within 3 years.

So the importance of this hearing today and tax policy favoring credits and assistance to renewable energy efforts, in my opinion, could not be reflected any more clearly than in the facts and prospects I have just described. What you have instituted and are considering in terms of lengthened tax incentives has palpable effects in the marketplace—WorldWater & Solar Technologies is a prime example. And if we benefit, the renewable energy industry benefits...and America's energy policy will experience success unforeseen even a few years ago. That's how fast we in the solar business now see the future of our power generation developing. We can use your help.

Thank you.

TESTIMONY
before the
U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SMALL BUSINESS

Subcommittee on Contracting & Technology Hearing
entitled
"Small Business Renewable Energy Tax Incentive Possibilities"

Presented by
Craig Breitbach, Director, Western Dubuque Biodiesel, Inc.

Wednesday, September 26, 2007

Introduction

Mr. Chairman, Ranking Member Davis, and members of the Committee, thank you for allowing me to testify on behalf of Western Dubuque Biodiesel in Farley, Iowa and the Renewable Energy Group, Inc. (REG) about incentives for renewable energy in this country. Our Western Dubuque facility, which we cut the ribbon on just two weeks ago, will produce up to 30 million gallons annually of biodiesel and employ 31 hard-working Iowans making alternative fuels from Iowa's home-grown farm crops. The Farley plant is the 6th plant in REG's network of biodiesel facilities, bringing REG's capacity to 162 million gallons per year.

I would also like to note that REG is working toward constructing a new biodiesel facility in Rock Port, Missouri, located in Congressman Graves' district. As a constituent and on behalf of REG, I feel very well represented on this Subcommittee today.

Background on Renewable Energy Group, Inc. and Biodiesel

In the past few years, the biodiesel industry has grown by nearly a factor of 10. The State of Iowa sits in the spotlight as the industry leader in production. REG is fostering growth of biodiesel nationwide with our biodiesel network. Today, out network includes six commercial-scale plants in operation; five in Iowa and one in Minnesota. In the coming year, three more facilities will come on-line in Louisiana, Kansas and Iowa, which will more than double REG's current biodiesel production capacity. By 2010, Renewable Energy Group, Inc. and our network plants plan for 600 million gallons of biodiesel to be available to this nation's petroleum distributors, fuel retailers and over-the-road diesel consumers.

Each of these plants utilize between 30 and 60 million gallons per year of soybean oil, animals fats or other vegetable oils to produce an equal number of gallons of biodiesel. Within this network, approximately 3,000 Iowa investors are being represented. These are people who have committed millions of dollars of capital to bolster biodiesel production facilities in our network. With the help of these investors, REG takes pride in producing, handling, storing and distributing high quality biodiesel. REG is only the third company in the United States to earn the BQ-9000 Accredited Producer and Certified Marketer status from the National Biodiesel Accreditation Committee.

Every gallon of domestic, renewable biodiesel that is used to replace diesel fuel refined from imported crude, reduces the need for imported oil, extends the diesel supply, and expands domestic refining capacity. According to a study conducted by the US Department of Energy and the US Department of Agriculture, biodiesel has a very positive energy balance. This Biodiesel Lifecycle Inventory Study found that for every unit of energy that goes into making biodiesel, 3.2 units of energy are gained. Biodiesel also has substantial environmental benefits when compared to conventional diesel fuel.

Federal Issues

Overview

The U.S. biodiesel industry is at a critical juncture where Federal tax and energy policy determines the extent to which it grows or remains a niche, regional fuel industry.

For a viable U.S. biodiesel industry to thrive, federal policy must provide a framework that is conducive to the growth of the industry. That framework consists of three items:

- Extending the $1 per gallon biodiesel blender's tax incentive to help make the fuel price competitive with conventional diesel fuel;
- Maintaining a strong CCC Bioenergy Program to help with high feedstock prices; and
- Enacting a Biodiesel specific requirement as part of the Renewable Fuel Standard (RFS) to jump start development of a domestic market.

Blender's Credit

Enactment of the federal blender's credit by Congress in 2004 has provided a fundamental building block on which the industry has grown. REG markets biodiesel economically with the help of this credit. The growth of REG's network plants is illustrative of that fact, because the credit has stimulated investment in new plants not just in Iowa, but beyond. Commercial plants offer new skilled jobs and rural development and enhanced energy security by adding biodiesel production capacity. The tax credit is fueling our nation's energy supply and, with each step, has benefited America's farmers. The blender's credit expires on December 31, 2008. It is critically important that Congress extend the blender's credit.

Farm Bill

On July 27th, the House passed H.R. 2419, its version of the Farm Bill which contained $1.4 billion in mandatory funding for the CCC Bioenergy Program between 2008 and 2012. The

CCC Bioenergy Program helps producers offset the cost of feedstock, a policy objective that is timely and relevant given dramatic increases in feedstock prices.

The CCC Bioenergy Program has encouraged the increased production of biodiesel and other biofuels and the construction of new production capacity, which has helped offset the costs of increasing feedstock prices.

Profitability is difficult in the initial years of production for any endeavor, and the margins for new biodiesel facilities are evaporating with the rapidly increasing feedstock costs. The CCC Bioenergy Program provides valuable financial assistance to ensure the success of these new ventures, and our industry asks Congress to reauthorize the CCC Bioenergy Program in a manner that provides a per gallon support for all domestic biodiesel production.

Additionally, Renewable Energy Group, Inc. supports programs which target biodiesel consumers relating to biodiesel utilization. Our industry continues to seek support for engine testing and further emissions and performance data which can be utilized in this education process.

Biodiesel Renewable Fuel Standard (Biodiesel RFS)

Finally, whereas the blender's credit and the Farm Bill CCC Bioenergy Program help to lower the cost of our feedstocks and the processing of the fuel, our industry will be nowhere without a ready domestic market for biodiesel.

In order to ensure a viable domestic market for biodiesel, Congress must enact a Biodiesel specific requirement as part of the RFS. Absent a Biodiesel RFS, domestic producers will suffer. The Energy Policy Act of 2005, created a Renewable Fuels Standard (RFS), which has encouraged the use of renewables in vehicle motor fuel. Although biodiesel qualifies for the RFS, it has not functioned as a stable floor for the diesel pool market.

Addressing America's need for energy security could not be more timely or critical. America relies on imports for 60 percent of its petroleum needs. Imported petroleum makes up the single largest component of our national trade deficit amounting to approximately one third of the total. As crude oil prices continue to rise, America's trade deficit continues to balloon. *Every gallon of domestic, renewable biodiesel that is used to replace diesel fuel refined from imported crude reduces the need for imported crude and finished fuel, extends the diesel supply, and expands domestic refining capacity.*

Conclusion

Mr. Chairman, members, I appreciate the opportunity to come before you today on this important issue. On behalf of Western Dubuque Biodiesel and Renewable Energy Group, Inc., I want to thank you for all of the support you have given not only to the biodiesel industry, but the development of the biofuels industry overall. We look forward to continue working with you in this important endeavor.

I would be happy to answer any questions you may have.

Testimony Concerning

"Small Business Renewable Energy Tax Incentive Possibilities,"

by **Edward L. Woolsey**
President

Green Prairie Wind Development LLC
Prole, Iowa

Before the: **House Committee on Small Business,**
Subcommittee on Contracting & Technology,
U.S. House of Representatives

September 26, 2007

Honorable Nydia M. Velázquez, Chairwoman of the House Committee on Small Business, Ranking Member Chabot and Members of the Committee:

Thank you for inviting me to testify on the tax possibilities for Small Business Renewable Energy.

I have had the opportunity to work in the renewable energy business for over 20 years and to own and operate my own small renewable energy businesses for the past 13 years. I want to start by saying that I am more optimistic about the future of the industry than at any time in my life. When I started working in this industry in Iowa one person could follow all of the projects in the State and understand their technologies. Today we have well over 3.5 Billion dollars worth of ethanol plants, one half Billion dollars worth of Bio-diesel plants and 1.5 Billion dollars worth of wind turbines either in the ground or under construction. I believe we are only scratching the surface of this 21st Century Industry. Many organizations have estimated the jobs and economic development impact on Iowa. For a good description I would refer you to the Union of Concerned Scientist[1] and to the Energy Foundation[2] reports.

While the reasons for supporting renewable energy have always included reducing heavy metals like mercury in the environment, reducing asthma causing particulates in the air, preventing oil wars, slowing global warming, reducing trade imbalances, and protecting God's creation, the motivating issue that seems to have gained the most traction is that of making money. People and companies will put concrete and steel in the ground fastest when they can make money. Tax policy is one of the key mechanisms that enable developers in this industry to make money.

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[1] http://www.ucsusa.org/clean_energy/

[2] http://www.ef.org/programs_news.cfm?program=power

In the energy development business there is no economic level playing field. Fossil fuels have been subsidized for decades in ways too numerous to mention. If we were to internalize all of the costs associated with fossil fuels and pay that price when we turned on the light switch or pay at the pump and we were to incorporate the benefits of developing sustainable energy in the price consumers pay, there is no doubt that sustainable energy would be cost effective today. But unfortunately that is not the world we live in. With that in mind let me briefly lay out some details of how we currently are able to build projects, some of the hurdles and some ideas where incremental tax policy changes might help.

I am currently involved in what we call a Community Owned Wind project.[3] The project consists of ten 2.1 mW wind turbines and 10 mostly farmer owners. These wind turbines cost over 3 million dollars each installed. The electricity is sold to the local Generation and Transmission Cooperative at a very modest price under a long term contract. The turbines are utility scale, state of the art machines each being able to supply enough electricity for 750 homes.

While all sustainable energy development is good and needs to be done rapidly, it is not all equal. For example, energy projects with significant local ownership have been shown to return up to 10 times the economic value to communities as those with typical corporate ownership. Project having typical corporate ownership (vast majority) usually provide a land rental to the local land owner, typically in the range of $2,500 to $4,000 per turbine while the same land owner who owns that turbine could retain $20,000 to $50,000 per turbine annually after debt service. In the renewable energy industry...ownership matters.

Since none of our 10 farmer owners had 3 million dollars in the bank, other money must be brought into the project. This is where tax policy played the largest role. The Section 45 Production Tax Credit is the largest cash flow contributor after the sale of the electricity itself. In order to take advantage of the tax credit and meet the "passive income" constraint, an outside investor must participate in the ownership of the business. This investor must then monetize their contribution to a present value, and hopefully monetize the available accelerated depreciation on capital expense at the same time. "Selling" both of these tax credits by the developer reduces the value of the credits by the amount necessary to incent the new partner to participate. This discount is not taken by larger companies able to use the entire tax credits and depreciation internally and that have passive income appetites.

In addition to bringing in an equity partner, success of our project was dependant on each of the ten LLC's successfully obtaining grant money and loan guarantees under the new Energy Title 9006 Section of the 2002 Farm Bill. This Energy Title has been hugely successful at starting new sustainable energy companies in Iowa and we hope that it will be reauthorized and funded at a much larger amount in the 2007 Farm Bill. The ability of the Section 45 tax credit to offset active as well as passive income would be helpful to our locally owned project development. In addition, money from the USDA program triggers a reduction in the Section 45 tax credit due to a double dipping provision. Elimination of this provision would have a favorable impact on project finance.

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[3] Community owned wind project information can be found at: http://www.c-bed.org/

After bringing in money from the new partner, the Farm Bill, and any State incentives available, a considerable amount of debt is still to be obtained and serviced. Due to the maturing of the industry, local banks are now a ready and willing source of debt funding. This funding is available at market rates. This funding stream may be a place where future tax policy may provide some incentive for small business development. An example might be found in the USDA Farm Service Agency. The FSA offers several programs that "buy down" interest rates for things like Farm Improvements, Beginning Farmers and Financial Setbacks. An interest buy down for renewable energy projects that fit the description of small business or community owned may have significant impact on industry development.

A tax change that could rapidly build our industry would be to provide a tax credit to the electricity off-taker for signing long term contracts with sustainable energy projects that meet the criteria of locally owned. These incentives would need to be at a level that would more than offset the current advantage that the electricity buyer (utility) sees with owning the turbines themselves.

Community ownership of wind lends itself to a more distributed model of electrical generation. This distributed or dispersed placement of generation allows the generation of electricity to be more closely located to the end user. This provides for considerably less transmission line losses as well as greater generation redundancy and hence greater energy generation security. The distributed model also allows for a wider geographic dispersion of wind turbines that take advantage of the fact that the "wind is always blowing somewhere".

A recent study in Minnesota[4] shows that distributed wind generation placed onto the lower voltage "distribution" lines and utilizing existing capacity on those lines could provide for Billions of dollars in new wind turbine placement with very little additional investment in transmission lines. With a lead time of up to seven years for the planning and construction of large transmission lines it seems to make sense that we need to do both immediately. We need to begin planning for large transmission lines while at the same time we need to begin serious construction of distributed wind generation on the smaller distribution grid where capacity allows.

The current cost of conducting the mandatory transmission line integration study for wind projects is prohibitively expensive. The study evaluates the system impact of new generation sources on the transmission grid. Our study for our small group was well over $100,000. This is up-front expense must be conducted with little or no knowledge of outcome nor access to line information. Since the grid owner/operators know this information about their own transmission lines it seems like the outsourcing of this study to outside engineering firms is an excessive upfront expense that unnecessarily reduces development efforts and hinders generation competition. The development of distributed generation systems would be assisted if a mechanism could be found to address this significant hurdle.

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[4] http://www.c-bed.org/transmission.html

Kim Zuhlke Testimony
Before the House Committee on Small Business
Subcommittee on Contracting and Technology
September 26, 2007

Mr. Chairman, Ranking Member Davis, and Members of the Committee - thank you for the opportunity to appear today.

I am Kim Zuhlke, Vice President of New Generation for Alliant Energy, an electric and gas utility serving portions of Iowa, Wisconsin and Minnesota – including areas of the Chairman's district in Iowa.

Small business is the job creation and economic development engine across most of the country. Our service territory is no exception. Having grown up on a farm and starting my career in the agricultural seed business, in my experience farmers are among the most courageous of small business people.

While I applaud your efforts to uncover the opportunities and remove the obstacles of expanding renewable energy use and production by all small businesses, my remarks will focus on farming.

There are two specific areas I will address as it relates to potential federal actions that could remove barriers and expand on-farm use and production of renewable energy; First, the deployment of anaerobic digesters and second, energy crop production for electric generation.

For those not familiar with digester technology, the system is designed to capture the methane that is produced as manure decomposes and convert it to a fuel that can be used either for pipeline quality gas, transportation or for on-farm electric generation.

By capturing and burning this methane it prevents the release into the atmosphere of a greenhouse gas that is twenty times more potent that carbon dioxide.
It is a domestic renewable fuel source.

The process eliminates much of the odor associated with traditional manure management systems and produces a by-product that can be put to profitable use as fertilizer for crops or in the lawn and garden industry.

At Alliant Energy we have partnered with four farm customers in our service territory to implement digester systems and have identified the following barriers to expanded use of manure digester systems.

First, there is no standard manure digester design - we need to have these systems be much more "plug and play." Additional funding for research, development and demonstration projects could help. Grants to manufacturers to develop standardized systems would also be useful.

Second, there are issues of scale. For example, a herd of at least five hundred head is required today to make such a system economic. It does not provide a solution for the

smaller family farm. Appropriate investments in research and development can help make these systems more scaleable. Alternatively, we could attempt to create cost-effective methods for small farms to transport manure to a central digester system. Here again, a specific grant to develop such a system would be appropriate.

Third, for most farm customers of any size, making the capital investment represents the largest single barrier. Grants, low or no-interest loans could go a long ways toward addressing this issue. We've found that tax credits are not as beneficial to most farm customers, unless they can potentially be sold to generate cash.

Lastly, on a more technical front, in order to make the system as efficient as possible one does need to achieve the right mix of enzymes and microbes in the digester. This is not always a simple task. Further research and development funding could help make this potentially complex part of the equation more of an off-the-shelf solution.

I'd now like to move now to energy crops. Alliant Energy is currently in the process of seeking regulatory approval to build two new coal-fired power plants. Both will be designed to co-fire biomass.

In order to accomplish this goal, we need farmers within fifty miles or so of the proposed plant sites to agree to grow these crops. While this is potentially very attractive to farmers, we are discovering certain barriers.

Corn prices have risen as the current and projected demand for corn-based ethanol has grown. Because there is a limit to what we can pay for an energy crop and still make co-firing economic at these new plants, we need to make growing energy crops attractive as well.

Switchgrass can grow on fields that may not be fertile enough to grow corn or is highly erodible. In many cases these fields are currently enrolled in the Conservation Reserve Program, or CRP. Changing the rules governing

CRP land to allow farmers to grow and remove switchgrass for biomass production, without suffering the financial penalties they currently face when harvesting hay from CRP land, would go a long way toward addressing this issue.

By allowing eighty to ninety percent of the switchgrass on CRP land to be harvested once per year, it will continue to be a benefit to wildlife, maintain reduced erosion and allow for the production of a beneficial crop without increasing the federal price tag of CRP.

Once established, switchgrass is a relatively easy crop to grown and maintain. It is, however, difficult to get started and typically takes two to three years to become established. Grants, low or no-interest loans could help farmers defray up-front expenses and the potential loss of income as the crop is being established.

Switchgrass and other energy crops can either be used as fuel in a power plant or as a feedstock for future

production of cellulosic ethanol. Both are beneficial and whatever incentives are established for one use should be generally equal for the other.

We look forward to working with our farm and other small business customers to make the expanded use and production of renewable energy a reality and welcome your support in meeting this goal.

Thank you.

Re: Small Business Contracting and Technology Hearing--September 26, 2007.

Washington, DC

* Good morning ladies and gentlemen. I am John Hutchinson and I am honored to be here this morning from East Tennessee to talk with you.

* Our companies engineer, construct, and automate coal preparation facilities in the eastern and central U.S. bituminous coal fields. We also manufacture and rebuild solid/liquid separation centrifuges, widely used in fine coal preparation throughout the world.

* With huge fleets of trucks, large mobile cranes, hundreds of units dependent on petroleum fuels, and an annual fuel budget of over one million dollars, we are certainly concerned about energy prices and its stable availability. But I am not here today to talk about our individual problems.

* I am here today to speak with you regarding one of America's greatest and most abundant sources of energy for yesterday, today, and the future ..that being coal.

* U.S. energy sources today consist of:

Oil	39%
Natural gas	24%
Coal	23% (roughly 1 billion tons per year)
Nuclear	8%
Hydropower	3%
Other	3%

* These same percentages are also very similar on a worldwide basis.

* Coal is indispensable for the production of electricity and steel. Other key uses include cement, paper, limestone industries and industrial heating.

* Technology is now in place for coal gasification, a process whereby coal is converted into a syngas and is itself a fuel. In this process coal is reacted with oxygen at high temperatures with the advantage that more of the energy in the fuel is extracted. It may then be burned in internal combustion engines, used to produce methane gas, or converted into a synthetic fuel. Today I would encourage all possible tax incentives to promote increased research and development in this area.

* U.S. coal reserves stand at 275 billion tons, an amount that is greater than any other nation in the world. This includes reserves at active mines and estimated recoverable coal reserves. Our federal government is by far the largest owner of the nation's coal beds, particularly in the west. To emphasize, these reserves are available right here at home in 38 US states, not dependent on importation!

* These reserves are capable of meeting domestic demand for more than 285 years at current rates of consumption.

* In addition to this nearly 300 year supply, there are additional demonstrated reserves of 250 billion tons, available for future mining.

* Coal reserves at existing mines by selected states include:

Alabama	355 million tons
Illinois	747 million tons
Indiana	382 million tons
Kentucky	1,169 million tons
Montana	1,234 million tons
Ohio	371 million tons
Pennsylvania	616 million tons
Tennessee	19 million tons
Virginia	294 million tons
West Virginia	1,741 million tons
Wyoming	7,975 million tons

* In the U.S., coal fired power plants account for over 56% of the electricity generated.

* In recent years 90% of U.S. coal is consumed for the generation of electricity. That equates to roughly a billion tons per year.

* Nine percent of U.S. coal is exported to forty foreign countries.

* In the Southeastern US , the Tennessee Valley Authority operates 11 coal fired power plants, producing 60% of TVA's power, selling over 33,000 megawatts of electricity to 158 locally owned distributors in seven states and serving 9 million customers.

* During World War II, our Appalachian coal mines, specifically mines in southern West Virginia, provided abundant metallurgical coal supplies for the production of steel used to make guns, plane, tanks, etc. required for the war effort and significant to the outcome of that conflict.

* World coal reserves include:

United States	275 billion tons
Russia	173 billion tons
China	126 billion tons
India	93 billion tons
Australia	90 billion tons

* Coal is also widely used throughout the world for the production of chemicals and fertilizers.

* Types of coal mining include:
  Underground mining, predominant in the eastern US.
  Surface mining, predominant in some Appalachian areas but more so in the West.

* Coal mining productivity

1973	2.16 tons per man-hour	152,204	employed	599	million tons
1983	2.50 tons per man-hour	175,642	employed	782	million tons
1993	4.70 tons per man-hour	101,322	employed	945	million tons
2003	6.95 tons per man-hour	71,023	employed	1,072	million tons

* Coal use has grown in recent years because of secure, abundant domestic reserves and relatively low prices. Demand has been maintained through increasing mine productivity, larger mines, technology for more efficient systems, and fewer mine personnel.

* Also, great advances in clean coal technology have been accomplished since 1985 with contributions from the federal government of 2 billion dollars, and 4 billion dollars from the coal industry.

* Giant strides have also been accomplished in the area of miner safety. Currently development is underway for underground safe houses and GPS location devices. Tax incentives for development of these systems would certainly aid this effort.

* Nationwide there are approximately 90,000 coal mining jobs currently. These mining jobs support another approximately 250,000 additional jobs.

* The coal mining industry as a whole provides many jobs directly or indirectly to East Tennessee, Southwest Virginia and Eastern Kentucky. These jobs are in the form of, not only coal mine jobs, but also construction, manufacturing, engineering, sales, marketing, and consulting. The Powell Companies alone, with whom I am associated, headquartered in Johnson City provides over 500 jobs regionally to the coal industry.

* History indicates that each significant action of government was accomplished with an immediate and negative effect on coal production. However, the reverse is also true. That is, positive governmental encouragement will likely result in the capital investment necessary to sustain future production at or above current levels. That is what we all should strive for.

* In closing, it is essential that every elected official, businessmen and women, state and local officials, and all of you present here today do all we can to sustain U.S. coal production.

* Thank you all for this opportunity to speak to you today regarding our coal industry. No matter what the future holds for America's energy needs, coal must be there along with oil, water, wind, natural gas, nuclear, and biofuels.

* I will take questions or comments that you may have.

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