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**TESTIMONY ON THE FEDERAL FARM BILL:
CLEAN ENERGY DEVELOPMENT OPPORTUNITIES**

**By: Howard A. Learner
Executive Director
Environmental Law and Policy Center of the Midwest
35 East Wacker Drive, Suite 1300
Chicago, Illinois 60601**

**COMMITTEE ON AGRICULTURE, NUTRITION AND FORESTRY
UNITED STATES SENATE
JUNE 28, 2001**

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Mr. Chairman, Senator Lugar and members of the Committee,

I am Howard A. Learner, the Executive Director of the Environmental Law and Policy Center (ELPC), the Midwest's leading environmental legal advocacy and eco-business innovation organization. ELPC and seven environmental organization partners recently released the new report and action plan *Repowering the Midwest – The Clean Energy Development Plan for the Heartland*, which puts into practice our belief that environmental progress and economic development can be achieved together.

Thank you for the opportunity to appear today to discuss why wind power, biomass energy and other clean energy development in farming communities can produce both environmental quality gains for the broader public and economic development benefits for farmers in particular. We encourage the Committee to explore ways to include clean energy development provisions in an energy title of the federal farm bill, and we believe that farmers can effectively become suppliers, not just users, of energy.

Modern life runs on electricity to power our homes and businesses. From refrigerators to computers, we depend on reliable electricity. However, at the dawn of the 21st Century when rapid technological progress is transforming society, much of the nation is still saddled with polluting and inefficient old equipment generating the energy to drive the "new economy". This overdependence on aging 1950's - 1970's vintage coal plants and 1960's and 1970's vintage nuclear plants, as well as some utilities' underinvestments in modernizing their deteriorating transmission and distribution systems, are causing both pollution and power reliability problems.

Developing clean energy efficiency and renewable energy resources is the smart and sustainable solution to our nation's pollution problems, to power constraints at peak demand times, and to challenges in meeting our overall electricity needs. Clean energy resources are the modern technologies for the 21st Century energy future.

Everyone already knows that Midwest farmlands, in particular, are ideal for growing the foods that energize our bodies. If the right public policies are put into place, farmers can also be encouraged to develop wind power project opportunities and grow high-yield "energy crops" that

can be used to generate electricity to help power our economy. Expanding wind power and biomass energy will provide new markets for crops while reducing air and water pollution and deterring soil erosion, and will provide rural jobs. Let's give farmers the tools and incentives to succeed in these genuinely new renewable energy markets. This is in addition to the efforts already underway to support the utilization of bio-diesel and ethanol fuels.

Repowering the Midwest is a national model for a smart clean energy development strategy to reduce pollution, improve reliability by diversifying the power supply, create new "green" manufacturing and installation jobs, and provide new renewable wind power and biomass energy cash crops for farmers. Seizing these sustainable development opportunities makes both good environmental and economic sense.

In my testimony today, I would like to provide you with five key points.

First, windpower development is a major opportunity to both provide environmental benefits for the public by avoiding pollution and create value for farmers and rural economic development in the growing clean energy sector. *Repowering the Midwest* provides the technical and analytical basis for demonstrating that renewable energy resources can provide 8% of the region's electricity generation by 2010 and 22% by 2020. The cost of clean renewable energy is plummeting as wind power, along with biomass and solar power, technologies have improved dramatically. Today's large new wind turbines – each standing 100 meters high and producing enough power for 300 homes – are far ahead of even mid-1990's wind equipment. These high-tech wind machines are far from the old windmills used for water pumping and other farm activities in rural areas. The tremendous design improvements have led to a huge drop in the per-kilowatt price – less than one-third of the 1981 wind power price and now close to competitive with conventional power sources.

When it comes to wind power, the flat lands of the Midwest are valuable assets. Wind power is the world's fastest growing energy source, expanding about 35% in 1998. More than 600 megawatts of new wind power (equivalent to the size of a typical coal plant) have come online in the Midwest since 1998, and that helps avoid pollution and provides rural economic development opportunities. Wind energy is truly a cash crop for farmers with typical annual lease payments for windy sites now in the range of \$2,000 - \$3,000 per turbine. For a 50-megawatt wind farm, that's about \$125,000-\$150,000 per year.

Iowa and Minnesota have led the way with utility-scale wind power development in the Midwest, and there are more major new wind power projects now going up in Illinois, Kansas and Wisconsin: FPL Energy just announced plans for a 100-megawatt wind power project in southwestern Kansas at less than 3 cents per kilowatt-hour; the new 30-megawatt Montfort Wind Project in Iowa County, Wisconsin just started producing energy this week using 20 very large (1.5-megawatt) wind turbines on 215-foot towers; and two 30 and 50-megawatt wind projects are in development near Mendota and Princeton, Illinois, respectively. Wind power is fast becoming a reality in rural Midwestern communities, and there are many more development opportunities.

There are also significant untapped opportunities for smaller-scale distributed wind power development to serve individual farms and small communities in locations where the wind

speeds are favorable and stringing more wires and poles to remote areas is very costly. The technological improvements are rapid, and the cost structure is coming down. Congress should consider steps that it can be taken to map good wind power sites, provide easy access to wind monitoring equipment and testing on particular rural sites, and low-cost financing for smaller distributed wind power projects.

More clean renewable energy also means more installation and manufacturing jobs. NEG Micon, a leading wind power business, and Spire Solar, a solar panel manufacturer, located in Illinois, are providing good-paying manufacturing jobs and capitalizing on current and future market opportunities. Likewise, LN Glasfiber is manufacturing wind turbine blades in Grand Forks, North Dakota. This is sustainable development in action. Still, the enormous potential of a growing renewable energy industry remains largely untapped.

Second, modern, clean energy efficiency technologies, as well as “tried and true” measures, can be deployed to save 17% of electricity use by 2010 and 28% by 2020. That can be achieved at a cost of less than 2.5 cents per kilowatt-hour, which is cheaper than generating, transmitting and distributing electricity through any other source.

Energy efficiency is the best, fastest and cheapest solution to power reliability problems. Best – because it avoids social and economic costs from pollution, and once new energy efficient lighting ballasts, for example, are installed, the savings are durable and reliable. Fastest – because energy efficiency measures can be implemented within a year, as compared to the several years or more typically needed to site and build a new central power plant. Cheapest – because robust energy efficiency improvements can be implemented for less than 2.5 cents per kilowatt-hour, as shown by the recent *Repowering the Midwest* study and the “Five National Labs” study commissioned by the U.S. Department of Energy.

Many energy efficiency improvements are smart, economical and waiting to be tapped. Inefficient energy use continues to waste money and cause unnecessary pollution. That can be changed by deploying new, more energy efficient heating and cooling systems, lighting, appliances, and building designs and materials. But, energy efficiency improvements are not limited to the major cities and suburbs.

There are many opportunities to be tapped for cost-effective energy efficiency improvements in farming activities, including modern motors and pumps, more efficient grain drying equipment, and better lighting. Clean energy efficiency development also means more green jobs because many new energy efficient products are manufactured by Midwestern companies, including Andersen Windows, Honeywell, Johnson Controls, Maytag, Osram Sylvania, Owens Corning, Pella, Trane, Whirlpool and others.

Third, federal policy action is necessary to transform this clean energy development potential into reality for farmers and others. The single most important legislative step would be to enact a **federal Renewable Portfolio Standard (RPS)** that requires all retail electricity supplies to include a specified percentage of renewable energy resources in their generation mix. The RPS standard should increase steadily each year to reach 8% by 2010 and 22% by 2020. The RPS

should require new renewable energy resources to meet the specified percentage target, not just a repackaging of existing resources.

It is essential that the types of renewable energy eligible for the RPS be carefully defined to include principally wind power, solar power, and closed-loop biomass energy. Municipal solid waste incineration, and the burning of tires, construction waste and other such materials should be excluded. Otherwise, the value of the RPS may be sidetracked and the opportunity to provide wind power and biomass energy development potential for farmers will be undermined.

Fourth, in developing the federal farm bill, the Committee should explore a potential **new Conservation Energy Reserve Program** that would recognize the value of putting agricultural lands into energy production in ways that also provide conservation protection. *Repowering the Midwest* explains the biomass energy development potential in the Midwest for switchgrass, alfalfa and other “energy crops.” The Chariton Valley Biomass Energy Project in Iowa hopes to demonstrate how switchgrass can be grown and harvested to produce 35 megawatts of power. A Conservation Energy Reserve Program could be structured to allow, for example, one cut of switchgrass per year in the fall after many birds have already departed. This approach is already underway as a pilot program under the existing Conservation Reserve Program, and, if successful, it could be transformed and expanded.

It should be recognized that a Conservation Energy Reserve Program and other approaches to encourage the production of more energy crops on farmland will only work if there are utilities and other retail electricity suppliers that purchase the clean energy. That is why the federal Renewable Portfolio Standard is so important, in combination, for spurring biomass energy development.

Fifth and finally, robust wind power development in the Great Plains states and Central Midwest is being stymied by transmission policies and practices that obstruct access to markets. **Transmission pricing and access reforms** are necessary to support the development of intermittent wind power and solar power resources, which generally operate on a smaller scale in more remote areas than is the case with many large coal and natural gas plants. Archaic interconnection rules should be standardized and modernized. **Federal legislation to provide clear and consistent interconnection standards could remove a key barrier and greatly accelerate wind power development in the Midwest, especially, and the nation.**

Historically, America has relied on farmers to work their lands to produce crops that provide food for our dinner tables. There are now 21st Century opportunities for farmers to also work their lands to produce new crops that provide energy to power our homes, schools and factories, and to help avoid pollution, thereby improving environmental quality and public health. Implementing the clean energy development plan *Repowering the Midwest*, as compared to business-as-usual policies and practices, will reduce: sulfur dioxide pollution, which causes acid rain, by 56% by 2020; nitrogen oxides pollution, which causes smog, by 71% by 2020; and carbon dioxide pollution, which causes global warming, by 51% by 2020.

Conclusion

Clean energy development for the Midwest and our nation is visionary, and it is practical and achievable. It will require a dedicated and concerted effort by legislators, regulators, the electric power industry, consumers and citizens to replace some of the outdated power plants and practices with modern clean technologies supported by policy innovations. The public is ready to seize the opportunities to robustly develop our clean renewable energy and efficiency resources that will lead to better environmental quality and public health, improved electric system reliability, and regional economic development gains.

One or two states alone cannot achieve the full benefits of clean energy development as envisioned by *Repowering the Midwest*. Electricity services markets are regional and successful energy strategies and policies require national and regional solutions and cooperation across state lines. *Repowering the Midwest's* clean energy development plan is a smart policy and technical strategy for the Midwest that can also serve as a model for the rest of the nation.

This Committee and Congress should include smart clean energy development policies and practices in the federal farm bill and in other legislation to secure healthy farming communities and a strong agricultural economy, national environmental benefits, balanced fuel portfolios, and economic growth. The Midwest and Great Plains can and should lead the way with significant wind power and biomass energy development.

We would be pleased to provide the Committee with the full report and executive summary version of *Repowering the Midwest – The Clean Energy Development Plan for the Heartland*.

Thank you for the opportunity to discuss these important issues with you today. We look forward to working with this Committee to find ways to benefit both farmers and the broader public by including new clean energy development provisions in an energy title of the federal farm bill that can achieve both environmental quality benefits and economic benefits for rural communities.