APPROVED APRIL 9, 2012

MINUTES
LEGISLATIVE TASK FORCE ON SUSTAINABLE BUILDING DESIGN AND PRACTICES
OF THE
ARKANSAS GENERAL ASSEMBLY

Monday, March 12, 2012
1:30 P.M.
Room 151, State Capitol
Little Rock, Arkansas

The Legislative Task Force on Sustainable Building Design and Practices met at 1:30 P.M., Monday, March 12, 2012, in Room 151 of the State Capitol in Little Rock, Arkansas. The following members attended:

Legislative Members: Senator David Johnson, Co-Chairman and Representative Greg Leding, Co-Chairman.

Non-Legislative Members: Chris Benson, John Coleman, Richard Davies, Charlie Foster, Anne Laidlaw, Mikel Lolley, Barbara Nix, Mark Robertson, and Kenneth Smith.

Senator Johnson called the meeting to order.

CONSIDERATION TO APPROVE FEBRUARY 6, 2012, MINUTES [EXHIBIT C]

Without objection, the February 6, 2012, minutes were approved.

Senator Johnson welcomed Charity Pennick from the Southern Growth Policies Board (SGPB) and recognized Mr. Smith for comments. Mr. Smith said the SGPB has been instrumental in developing economic development policies in the South. Ms. Pennick and her colleagues were the principal authors of The Arkansas Clean Technology Primer, a study that identifies clean-technology assets that are already in place in Arkansas.

TASK FORCE MEMBER APPOINTMENT TO THE REVOLVING LOAN FUND REVIEW COMMITTEE [EXHIBIT D]

Ms. Anne Laidlaw, Director, Arkansas Building Authority (ABA), said the Revolving Loan Fund (RLF) was formed in 2009 from legislation proposed by the Task Force. The Arkansas Energy Office provided a $11,370,000 grant from the American Recovery and Reinvestment Act Fund. The ABA administers the fund and was given a deadline of March 31, 2012, to loan the full grant amount. Ms. Laidlaw said they met the deadline.

Two members of the five-member committee are to be appointed from the Task Force. Ms Murray currently serves, and a replacement for Mr. Alan Hope needs to be appointed as he is no longer a Task Force member. Mr. Coleman noted he would like to be considered.

Mr. Robertson made a motion to nominate Mr. Coleman to the Revolving Loan Fund Review Committee. Mr. Smith seconded the motion. Mr. Coleman was appointed by acclamation.

PRESENTATIONS AND DISCUSSION

Ms. Naomi Lovinger, Head of Communications, Nordex USA, Inc. (Nordex), presented a PowerPoint entitled, "Wind: Arkansas's Present and Future" **(ATTACHMENT 1)**, and said Nordex has been a major player in the utility-scale wind turbine manufacturing industry for 26 years. The company is headquartered in Hamburg, Germany and operates globally with 2,500 employees, and about 4,500 wind turbines in 34 countries.

In September 2009, Nordex invested $42 million in Arkansas breaking ground on a wind-turbine nacelle production plant in Jonesboro. The facility was operating by October 2010, and Nordex plans to develop 100% of the 187-acre site. Existence of a quality workforce; university commitment to provide employee training; assistance from state and local governments; and being centrally located to the windy parts of the U.S. encouraged Nordex to invest in the state. It has developed an extensive supply chain in Arkansas using LM Wind Power in Little Rock for blades and Beckmann-Volmer in Osceola for turbine steel components.

Ms. Lovinger noted Nordex chose the U.S. over Asia because it has one of the most abundant, affordable, reliable, and secure wind resources in the world. U.S. wind has the potential to supply more than 37 trillion kilowatt hours (kwh) of electricity per year (ten times the amount of electricity currently used in the U.S.). Currently, there are

about 47,000 megawatts (mw) of wind power installed in the U.S. The primary role of wind is to be included in a generating source portfolio. Twenty percent of electricity in Iowa and Texas is wind generated.

Wind is one of the most affordable forms of new electrical generation, because after the initial investment, the power is free. Wind power sales are negotiated with a Power Purchase Agreement (PPA) that guarantees the price for 20 years. The ability to hold prices stable is an impressive factor for the wind power industry. A study by Excelon shows that wind will remain cost-competitive for the next 20 years at about $40 per megawatt hour (mwh) or 4¢ per kwh. Natural gas pricing is extremely volatile, and current low prices are regarded as unsustainable, making long-term planning difficult.

A key incentive for the wind industry is a production tax credit (PTC) that will expire December 31, 2012. Previous PTC expirations resulted in a dramatic decrease in the number of wind farms constructed the following year. Because of the credit uncertainty, there are no U.S. wind farm installations planned for 2013. If the PTC is not reinstated within the first quarter of 2012, half of the production jobs will likely be eliminated, and the strong wind-power manufacturing job force created in the U.S. will be threatened. Ms. Lovinger said Nordex is examining export markets in anticipation of a declining U.S. market.

Despite tremendous public support for wind power, there is no U.S. national energy policy. Leadership is with the states; 29 implemented renewable standards and 8 have renewable goals. Most states that have not done this (including Arkansas) are in the southeast, because it was historically perceived that the region does not benefit from wind. Recent studies show that wind in the region is comparable to northern Germany, where 20% of energy is produced with wind. Nordex designs and builds wind turbines that work exceptionally well in light wind conditions. Recent wind power investments by Alabama Power, Tennessee Valley Authority, and Southwestern Electric Power Company indicate that wind will soon become a more viable source of power generation in the southeastern U.S.

Ms. Lovinger said Arkansas means "south wind", and the state's wind capacity could supply about 58% of its current electric demand. Because Arkansas encourages wind companies to invest in the state, the area is regarded as a successful powerhouse in the wind manufacturing industry. She encouraged leaders to set a renewable energy standard for utilities and to develop a state energy policy setting clear targets and goals.

Mr. Douglas Hutchings, CEO, Silicon Solar Solutions (SSS), presented a PowerPoint entitled, "Silicon Solar Solutions – Changing Solar Problems into Solar Solutions" **(ATTACHMENT 2)**, and said SSS began as a class project at the University of Arkansas while earning his PhD in engineering.

Mr. Hutchings said typical solar cell production involves high-cost, highly-efficient crystalline-silicon technology that creates 150 times more silicon than needed. SSS developed technology that converts amorphous silicon (one of the least efficient solar energy performers) into a high-performing product using a process called "Top-Down Aluminum Induced Crystallization" (TAIC). It creates a solar wafer directly on a sheet of glass and eliminates expense, mechanical properties, and excess material commonly associated with standard solar cell production.

TAIC is a result of more than $7 million of academic funding recruited by Arkansas researchers and involves matching funds from Arkansas sources. SSS has two options: sell TAIC technology to a manufacturer or develop a manufacturing site and produce the solar cells. Mr. Hutchings noted that when innovative and economic benefits are considered, he believes TAIC development would be more compelling if manufacturing is retained in Arkansas, which is their ultimate goal.

The International Energy Agency predicts by 2050, solar energy production will be 8,300 times the amount produced in 2005. Thin-film silicon technology is expected to grow into the second largest solar opportunity. The average solar manufacturing plant employees 52 people with an average annual wage of $49,000. Mr. Hutchings noted that when approaching potential investors, one deterrent he often hears is there seems to be a lack of commitment to green energy in Arkansas. He encourages Arkansas leaders to develop the solar manufacturing industry with Arkansans who already have a loyalty to the state.

Mr. Frank Kelly, Owner, Solar Source Consulting (SSC), provided a PowerPoint presentation **(ATTACHMENT 3)** and said 48% of energy used in the U.S. provides power to buildings. He said states should enforce and install the latest building codes quickly, because it is easier to save energy than create it, regardless of the source. Passive Solar Design considers appropriate orientation of new construction, window placement, integration of overhangs, and

rooftop designs that accommodate solar panels. Existing buildings can be retrofitted to become energy producers rather than energy users.

Arkansas generates 1/10 of 1% of its energy from renewable resources, but could increase that number to almost 30% with distributed generation of renewable resources. Currently, there are six times the number of suitable rooftops needed to produce 100% of Arkansas's electricity, but relying on one energy source is not feasible. Production numbers indicate that lack of large-scale storage for solar energy is not a relevant issue at this time.

Mr. Smith made a motion to submit a letter on behalf of the Task Force to congressional delegates in support of the PTC for wind. Mr. Robertson seconded the motion. The motion carried.

Mr. Smith made a motion that the Task Force become a stakeholder with sentiment towards developers of the State Energy Plan. Mr. Lolley seconded the motion. The motion remained pending.

Mr. Mikel Lolley, Founder/Executive Director, Treadwell Institute, presented a slide entitled, "The Pyramid of Conservation" **(ATTACHMENT 4)**. He said energy efficiency interventions should begin with simple no-cost applications that offer quick paybacks with the best rate of return; then incrementally advance to more expensive complex treatments that produce long paybacks with a high rate of return. He believes the Task Force should consider alternative economic development models as they relate to distributed and retained wealth. He wants the Task Force to be recognized as a stakeholder in development of the State Energy Plan, noting the group should complete the State Energy Plan Questionnaire, and the recommendations should be considered as the plan is developed.

The Treadwell Institute was identified as a stakeholder, and Mr. Lolley populated the survey on its behalf **(HANDOUT 1)**.

Senator Johnson said he believes the Task Force opinion, as it relates to the Energy Plan, should be recognized. A copy of the Energy Plan Survey will be distributed, and Senator Johnson invited members to submit feedback (via e-mail to Carol Stapleton) within a week to ten days. The Task Force will offer an official response to the Governor's Office in a couple of weeks. The survey was due on February 29, 2012, so the Task Force survey will be submitted late to Marc Harrison in the Governor's Office.

Senator Johnson said the next Task Force meeting will be April 9, 2012, at 1:30 p.m.

Mr. Smith said Arkansas has not implemented 2009 Building Codes, and he believes it is important to take action on this issue. He hopes the Task Force can consider "Implementation of 2009 Building Codes" as a meeting topic soon. Senator Johnson asked Scott Hamilton if he would join the next meeting to discuss this issue. Mr. Hamilton agreed.

With no further business, the meeting adjourned at 3:35 p.m.