The Facts Refute the Myth That Kentucky's Renewable Energy Potential Is Poor

By Andy McDonald

This past October over 400 Kentuckians learned a powerful lesson – solar energy works in Kentucky. The Kentucky Solar Tour featured over three dozen homes and other sites where solar energy is used to produce electricity, heat water, or provide space heating/cooling. The Solar Tour crossed the state, from Bowling Green to Berea and Kenton County to Rockcastle County. Kentucky was one of 48 states participating in the National Solar Tour that day, in which 150,000 people participated. The message is simple: Solar energy has arrived. It works. It's proven technology. It's no longer the technology of the future. Solar is the technology for today.

Wind energy presents another great opportunity for Kentucky. Conventional wisdom says Kentucky has poor wind resources. However, conventional wisdom is based on outdated wind resource maps that analyzed Kentucky's wind resources at 50 meters above the ground. Modern wind turbines, the kinds we see in neighboring states like Indiana and Illinois operate at 80 meters or more, where wind speeds are much higher.

Within the past two years, over 500 megawatts of wind farms went online in Indiana, in areas classified as poor wind sites on the old wind maps based on measurements taken at an elevation of 50 meters. More recent studies measuring wind velocity at the height of modern wind turbines found enough wind to justify hundreds of millions of dollars in investment. Over 500 megawatts of additional wind farms are now under construction in Indiana.

Our in-state wind resources do not limit our ability to use wind power. With utility-scale wind farms in operation or development in every state bordering Kentucky and with existing power lines crossing state borders, Kentucky has access to thousands of megawatts of wind potential in neighboring states. Meanwhile we can research and develop appropriate sites within the state.

Low-impact hydro is another local renewable resource available today. Soft Energy Associates has identified 39 existing locks and dams on rivers within and bordering Kentucky which altogether could potentially generate over 800 MW. Lock 7 Hydro Partners, LLC recently redeveloped a hydroelectric station near Shakertown, which provides the renewable energy credits for KU and LG&E's Green Power program. This summer AMP Ohio broke ground on a new 84 MW hydro plant on the Ohio River and is expected to begin construction on another 72 MW project in 2010.

The large scale development of renewable energy would bring many benefits. Diversifying our power supply (currently 93% dependent on coal) would provide protection against the rising costs and risks of using coal-generated electricity. Cleaner air and water would improve public health. Distributed generation (with thousands of

micro-generators across the state) would make the grid more resilient, lower peak demand, and reduce the risk of blackouts.

Economic development and job creation would be another benefit. To harness these renewable resources, someone has to manufacture the equipment and materials. These have to be warehoused and shipped, marketed and sold. Professionals are needed for installation and service. Accountants, truckers, engineers, tradesmen, laborers, and teachers are needed to bring renewable power into our homes. Students are needed to learn the skills to work in this new economic sector.

Germany leads the world in installed solar PV capacity, despite having solar resources similar to Alaska's and weaker than Kentucky's. A German government report found that an active solar market supports 30 jobs for every megawatt of solar photovoltaics installed. That would be 30,000 jobs for 1,000 megawatts of solar PV. Other studies have found 15 – 30 direct jobs created per megawatt, and another 3.5 indirect and induced jobs created for every direct job created. The result in Germany has been a renewable energy sector supporting 280,000 workers.

One thousand MW of solar PV could power 200,000 energy efficient homes, generating 1.2% of the total electrical power consumed in Kentucky. States such as North Carolina, New Jersey, and Pennsylvania have directed their utilities to provide in the range of 0.2% to 2.1% of their power from solar within the next 10 to 12 years. New Jersey – with solar resources comparable to Kentucky's – has the second largest solar market in the US as a result of such policies.

The bottom line is that solar and wind are being developed at a very large scale in other states. Those states are attracting billions of dollars in investment and creating thousands of new jobs, while furthering their goals of energy independence, public health, and environmental protection. The barriers to doing this in Kentucky are not technical, and they are not due to a lack of wind, solar and hydro resources. We do not need to wait for any technological breakthroughs. What we need is leadership in crafting the right policies – feed-in tariffs and a Renewable and Efficiency Portfolio Standard - to open up the market and create an environment where renewables can flourish.

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