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SUSTAINABLE ENERGY STUDY #1

The Potential for Renewable Energy in Iowa

Clean energy policies could save Iowa consumers more than $1 billion, create 5,000 jobs and cut fossil-fuel pollution by 2020, Environment Iowa said in new report.

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"Redirecting Iowa's Energy"

by Environment Iowa, December 20, 2006

http://www.environmentiowa.org/reports/energy/energy-program-reports/redirecting-iowa39s-energy

Executive Summary

Iowa can be a leader in renewable energy, providing home-grown power to increase our state's and country's energy security. Fortunately, investing in clean energy policies would generate new high-paying jobs, save consumers and businesses billions of dollars, and boost Iowa's economy while reducing power plant pollution. Both reducing demand through energy efficiency and diversifying our electricity mix with renewable energy sources also will solve the problems of Iowa's current reliance on coal, oil, gas, and nuclear power for electricity generation – a legacy of environmental and public health problems. This legacy also includes volatile price fluctuations, costing consumers dearly on electricity bills.

Over the past 50 years, the federal government has provided more than $500 billion in subsidies to the fossil fuel and nuclear industries, investing a fraction of that in energy efficiency and renewable sources of energy such as wind, solar and geothermal. As a result, coal, nuclear power, oil and gas provide more than 95 percent of Iowa's electricity. This dependence on fossil fuels carries severe public health consequences, including asthma attacks, respiratory disease, heart attacks, and premature deaths. Moreover, fossil fuels, such as coal and oil, pollute the environment from the point of extraction to combustion in the form of global warming, acid rain, oil spills and runoff pollution. At the same time, nuclear power has left us with a nuclear waste problem for which no safe solution exists.

Despite the environmental and public health implications of relying on fossil fuels and nuclear power to meet our energy needs, the federal government continues to push energy policies that would offer more of the same. Last year's federal energy proposals included billions of dollars in

new and extended tax breaks for oil and gas drilling, loan guarantees and federal subsidies for building new coal plants, and incentives to build the first new nuclear power plants in 30 years. This continued investment in fossil fuels and nuclear energy ignores recent research documenting the potential to meet more of our electricity needs with energy efficiency and renewable sources of energy.

We can rely on clean energy resources; in fact, the technical potential of wind, clean biomass, and geothermal resources in the United States is four times greater than our current total electricity consumption. Here in Iowa, we could generate 17 times our current electricity usage from renewable energy sources such as wind and clean biomass. Additionally, conservative estimates suggest that energy efficiency programs could reduce our electricity use in Iowa by 18 to 28 percent. Rather than import dirty coal and rely on outdated fossil fuels, Iowa should harness its homegrown sources of renewable energy, including wind, solar and biomass, and lead the development of energy for the 21st Century.

Proponents of the dirty energy status quo contend that investing in fossil fuels and nuclear power are essential for a healthy and vibrant economy and that diverting investment to renewables and efficiency will cost us jobs and increase costs to consumers. A growing body of literature, however, shows that investing in energy efficiency and technologies such as wind and solar power boosts local economies and creates jobs, particularly in a state such as Iowa, whose renewable energy resources are great. Moreover, investing in renewables and energy efficiency helps to diversify the electricity market and reduces consumer dependence on coal and natural gas, thereby saving consumers money and shielding them from fluctuations in market prices.

This brings us to the central question of this report: what would be the economic and consumer impacts of pursuing clean energy policies?

Specifically, we examined the economic and consumer impacts of pursuing two different scenarios involving renewable energy and energy efficiency policies:

Scenario 1: Enacting a 20 percent clean renewable energy standard, commonly referred to as a renewable portfolio standard or RPS, which would require Iowa to generate 20 percent of its electricity from clean energy by the year 2020, and funding publicly-run energy efficiency programs in Iowa with $50 million each year from 2007 to 2020; and

Scenario 2: Enacting a 20 percent clean renewable energy standard and funding publicly-run energy efficiency programs with $100 million each year from 2007 to 2020 in Iowa, which would eliminate Iowa’s projected 1.5 percent yearly increase in electricity demand.

We found that implementing these clean energy policies would greatly benefit the economy and consumers in Iowa while reducing air pollution from power plants.

In Iowa, the clean energy policies of Scenario 1 would:

• Create 2,340 net jobs in 2020 and a net annual average of 1,413 jobs between 2005 and 2020; Increase wages by $31 million in 2020;

• Save all consumers—residential, commercial, and industrial—$147 million on energy bills cumulatively by 2020 and in 2020 would cut expected electricity demand by 10 percent;

• Reduce global warming carbon dioxide emissions from power plants by eight percent of 2002 levels; smog-forming nitrogen oxide emissions by seven and one-half percent of 2002 levels; and soot-forming sulfur dioxide emissions by six and one half percent of 2002 levels, all by 2020.

In Iowa, investing in these clean energy policies in Scenario 2 would:

• Create 5,166 net jobs in 2020 and a net annual average of 2,679 jobs between 2005 and 2020; Increase wages by $37 million in 2020;

• Save all consumers—residential, commercial, and industrial—$1.086 billion on energy bills cumulatively by 2020 and in 2020 would cut expected electricity demand by 20 percent;

• Reduce global warming carbon dioxide emissions from power plants by 11 percent of 2002 levels; smog-forming nitrogen oxide emissions by nine percent of 2002 levels; and soot-forming sulfur dioxide emissions by eight percent of 2002 levels, all by 2020.

The findings of this report—and hence the title—underscore the benefits of Redirecting Iowa's Energy. Strong support for energy conservation and efficiency, coupled with increased emphasis on the development of renewable energy, can help solve our current energy problems, provide a significant boost to the economy and move us towards a safer, healthier energy future.

FULL REPORT: See http://www.environmentiowa.org/uploads/Cg/NZ/CgNZwlQR6y1a-xHLct9saQ/Redirecting_Iowas_Energy.pdf