
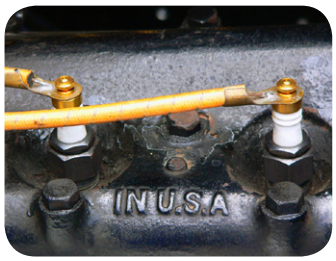

The Apollo Alliance





How to Keep Creating

CLEAN ENERGY JOBS

IN MISSOURI

Dane Glueck, president of StraightUp Solar, displays a 45 kW solar panel array installed at Novus International in St. Charles, MO.

Introduction

The Apollo Alliance estimates that a cap on carbon emissions with strong investments in renewable energy, energy efficiency, clean energy manufacturing, and vehicle efficiency standards could create up to 88,000 jobs in Missouri by 2030.

This policy brief examines the impact of current clean energy and climate proposals on employment in Missouri. Even without strong national or state-level clean energy measures, Missouri's clean energy jobs have been growing at a respectable clip – 5.4 percent between 1998 and 2007, compared to a 2.1 percent growth rate for overall jobs, according to a June 2009 study by the Pew Charitable Trusts.[1] Dow Kokam is producing high-capacity batteries for electric cars in Kansas City. United Auto Workers members at the ABB plant in Jefferson City are manufacturing transformers for Missouri wind farms being developed by St. Louis-based Wind Capital Group. Communications Workers of America (CWA) members in Washington, Missouri are manufacturing transformers as well, and exporting them to other states' wind farms. And the Urban League of Metropolitan St. Louis has created 60 jobs in the last 18 months weatherizing homes, homeless shelters, and low-income housing developments throughout the city with funds provided through the American Recovery and Reinvestment Act (ARRA) of 2009.

But success stories like these would become much more commonplace in Missouri if the U.S. implemented a comprehensive clean energy and climate policy that included a cap on carbon emissions, a national renewable energy standard, investment in domestic manufacturing, and strengthened vehicle efficiency standards.

Employment Impact of Strong Clean Energy and Climate Change Measures on Missouri

This policy brief looks at how many jobs would be created in Missouri if the U.S. were to enact comprehensive energy and climate legislation with the following provisions: a clean energy manufacturing revolving loan program as proposed in the Investments for Manufacturing Progress and Clean Technology (IMPACT) Act; a renewable energy standard of 25 percent by 2025 as proposed by Senator Tom Udall in Senate Bill 433; investments in advanced vehicle manufacturing paired with stronger vehicle energy efficiency standards; and limits on carbon emissions, as were proposed in the American Power Act, which was introduced by Senators John Kerry and Joe Lieberman earlier this year, combined with other key energy efficiency provisions.

Investments in Domestic Clean Energy Manufacturing

The federal Investments for Manufacturing Progress and Clean Technology (IMPACT) Act, introduced by Senator Sherrod Brown, would support domestic clean energy manufacturing. It would provide $30 billion nationwide to establish state-administered revolving loan funds to assist small and medium-sized manufacturers to retool to produce clean energy component parts and become more energy efficient. It would also increase long-term funding for the Hollings Manufacturing Extension Partnership program to help manufacturers diversify into clean energy markets and adopt innovative, energy-efficient manufacturing technologies. The IMPACT Act was incorporated into the American Clean Energy and Security (ACES) Act, passed by the U.S. House of Representatives in June 2009. Recent estimates of the state-level economic impact of the IMPACT legislation have found that IMPACT's implementation could create between 41,000 and 52,000 jobs in Missouri over 10 years.[2]

Strong Renewable Energy Standard

Renewable energy standards require that utilities produce a certain amount of their electricity from renewable sources like wind and solar. Twenty-nine states, including Missouri and the District of Columbia have already implemented renewable energy standards. A strong federal renewable energy standard (RES) would set a target of 25 percent of America's electricity being generated by renewable sources by the year 2025. Senator Tom Udall (D-New Mexico) introduced legislation to achieve a strong renewable energy standard along these lines in February 2009. The implementation of a national RES at this level, combined with stronger domestic supply chains to ensure domestic suppliers fully meet the new demand for clean energy products created under a 25 percent RES, could create up to 22,796 manufacturing jobs in Missouri by 2025.[3]

(Continued on Page 6)

Lost Creek Wind Farm Turbines Made in the USA

by Andrea Buffa

Farmers in DeKalb County, Missouri, who depend on corn, soybeans and pasture land for their livelihoods will soon gain another source of income: annual payments from the Wind Capital Group, which is leasing space on their properties to create the largest wind farm in Missouri. Lost Creek Wind Farm will cover 32,000 acres and produce enough electricity to power 50,000 homes. The project will also create short-term construction jobs and ongoing operations jobs as well as infrastructure benefits for DeKalb County.

"During construction, we upgrade the local county roads," said Dean Baumgardner, executive vice president of technical services and construction at Wind Capital Group. "We convert dirt roads into gravel roads and upgrade county bridges, so there are a lot of side benefits to these wind farms."

"It really does make a significant impact on the local economy to have those jobs and leasing payments coming in," said Joe Thomas, Missouri coordinator for the Apollo Alliance. "Even if some of the workers come from outside the local area, they will buy meals, stay in hotels, and go to the movies when they're not at the job site. That's got to make a difference for the rural towns that have this project nearby."

While some U.S. wind projects are coming under fire because they plan to purchase foreign wind turbines – which means most of the manufacturing jobs associated with the projects will be located abroad – Lost Creek Wind Farm turbines are being manufactured in the United States.

"We don't have an official policy, but it's certainly our intention to try to get as much domestic content as possible," said Baumgardner. "We're using GE [General Electric] turbines, so most of the components are being produced here in the United States. Each wind turbine also has an electrical transformer, and those were all built at the ABB plant in Jefferson City."

ABB employs approximately 475 union workers at its Jefferson City manufacturing facility. The workers are represented by United Auto Workers Local 2379, whose president, Gene Cobb, says the green economy has been good for ABB and its workers, who earn

more than $17 an hour. “It’s sustained us and kept some people working who would normally be laid off,” Cobb said. “We also have new products being developed right now – all for green projects – and even some of our old products are being transformed. For example, we’re working on using biodegradable oil to cool the transformers.”

In addition to the jobs at ABB, construction and operations jobs are being created by the Lost Creek Wind Farm. The construction of the Lost Creek Wind Farm employed approximately 260 people, doing jobs like upgrading local access roads and building the foundations that will support the wind turbines. Since the wind farm became operational in late May of 2010, 12 permanent operations workers are employed on-site. This will be the first of its wind farms fully owned and operated by the Wind Capital Group, which employs approximately 75 people.

Carnahan saw the potential for wind energy in Missouri five years ago and began developing wind farms in the state soon thereafter. The company’s first four Missouri wind farms were developed in partnership with John Deere Wind Energy, and the power was purchased by Associated Electric Cooperative Inc. (AECI) out of Springfield, Missouri. AECI will also purchase the power produced by the Lost Creek Wind Farm.

Baumgardner credits AECI with being forward-thinking in purchasing wind energy well before Missouri adopted a renewable energy standard. He said Wind Capital Group supports Missouri’s current RES – which requires 15 percent of the state’s energy to come from renewable sources by 2021 – and is urging Congress to enact a national RES.

Carnahan echoed these sentiments in his interview with ClimateWire: “As far as my business and from the perspective of the wind industry, we want to see a strong RES go forward, and that is the most important priority for us. If we have a strong RES, you will see quite a bit of investment into this space, new manufacturing, the jobs it creates, and new projects.”

Kansas City's Green Impact Zone: A Vision for 21st Century Urban Renewal

by Andrea Buffa

Congressman Emanuel Cleaver II (D-Missouri) had a vision for how the Recovery Act could benefit the urban core of Kansas City, Missouri, where he served as mayor from 1991 - 1999. The city would create a 150-block "Green Impact Zone," where federal dollars could spur the renewal of a poor and dilapidated area by creating a program to put residents to work weatherizing thousands of neighborhood homes.

Cleaver's vision was quickly embraced by the City Council of Kansas City and by many neighborhood groups. It has now evolved into a green community revitalization effort that touches not only on green jobs and home weatherization, but also on transit, community safety and other services that are vital to a healthy neighborhood.

The Green Impact Zone plan is notable for its comprehensive approach and depth of its community involvement. This approach will address severe unemployment in the area, which is estimated to range from 13 percent to 53 percent, depending on the neighborhood. The Green Impact Zone also suffers from what can only be called abandonment. Some 25 percent of the area's properties are vacant lots. One area that was included in the Green Impact Zone is called the "murder zone."

"I grew up here in Kansas City," said Anita Maltbia, director of the Green Impact Zone, which is being sponsored by the Mid-America Regional Council, a nonprofit regional planning organization, and will be housed in a building located in the zone. "I was aware of what this community was like 30 to 40 years ago. It's been in constant demise for the last 30 to 40 years – environmentally, economically and socially, it used to be stronger than it is today."

Maltbia coordinates the various organizations and individuals that will be working together to develop the Green Impact Zone. These include neighborhood associations, utility companies, employment training centers, educational institutions, and government agencies, among others.

The weatherization component of the Green Impact Zone program has received the vast majority of media attention for the program, which makes sense to Bob Housh, executive director of the Metropolitan Energy Center, one of the Green Impact Zone training partners.

"Almost half of the people in the Green Impact Zone are unemployed," Housh said. "Although residential energy efficiency in itself is not enough to cure the problem, it starts developing jobs and new businesses in the Green Impact Zone. And with the other things the federal government is doing around residential energy efficiency – tax rebates, incentives, and so on – it's going to help create a market for this."

Housh's organization is partnering with the Full Employment Council of Kansas City and the University of Central Missouri to train Green Impact Zone residents to be certified energy auditors. In September 2010, the Green Impact zone kicked off their push to weatherize more than 650 homes in the next 20 months, funded in part by $4.5 million in ARRA weatherization funds from the Department of Energy.

But plans for the Green Impact Zone go way beyond home weatherization and the green jobs associated with it. Other components of the program include a rapid-transit bus route, a smart grid energy project, a green sewer demonstration project, a botanical garden, and a citizen engagement center that will serve as a one-stop shop for residents' public safety issues.

Margaret May, executive director of the Ivanhoe Neighborhood Council, says that Green Impact Zone residents are excited about the project and its prospects for improving their community, despite some obstacles that have come up during the planning process. Such obstacles don't intimidate May, who has dealt with far more menacing neighborhood problems than an inconvenient federal regulation. "We are very grateful for this opportunity," she said. "We believe we're going to do this and exceed the goals that we have, and that we're going to be so successful that across the nation this concept is going to spread, and within our city it will go into an area that's even larger than what's currently planned for."

Photo © Abound Solar

Vehicle Efficiency Standards and Investment in Advanced Vehicle Manufacturing

In May 2009, the Obama administration announced historic new regulations to limit the amount of greenhouse gas emitted by light-duty vehicles, which will raise average vehicle fuel efficiency to more than 35 miles per gallon by 2016. Additionally, the Obama administration recently announced that these declining tailpipe emissions standards would be extended each year until 2025. This new regulation will drive demand for a wide range of fuel efficient technologies, which could be made by American workers if we expand investments in advanced vehicle manufacturing. These regulations could create up to 190,000 new jobs worldwide by 2020. To ensure that the United States captures these jobs, smart climate and energy policy should contain investments in domestic advanced vehicle manufacturing, such as the expansion of the Advanced Technology Vehicle Manufacturing loan program proposed in Section 125 of the ACES Act. The Apollo Alliance estimates that higher vehicle efficiency standards and a dedicated stream of funding for this program could create up to 5,800 manufacturing jobs in Missouri by 2020.[4]

Limits on Carbon Emissions and Strengthened Energy Efficiency Provisions

The American Power Act, which was introduced by Senators John Kerry and Joe Lieberman in May 2010, caps and puts a price on greenhouse gas emissions. It also sets targets for reducing those emissions to 17 percent below 2005 levels by 2020 and 80 percent below 2005 levels by 2050. The American Council for an Energy Efficient Economy estimates that this proposal, combined with the American Clean Energy Leadership Act and further strengthened with greater investments in energy efficiency, efficient transportation infrastructure, and clean vehicle manufacturing could create more than 350,000 jobs nationwide by 2030.[5] The Apollo Alliance estimates 7,280 jobs would be created in Missouri by 2030.[6]

Source: Detroit News

America Invests in Advanced Battery Manufacturing

by Andrew Kornblatt

A 2005 report by the federal Advanced Technology Program at the National Institutes of Standards and Technology found that the U.S. had no capacity to produce advanced vehicle batteries at scale. In order to beef up capacity and ensure that batteries for new electric vehicles are made domestically, the American Recovery and Reinvestment Act (ARRA) provided $1.5 billion in grants to U.S.-based battery manufacturers.

Kokam America, a manufacturer of lithium-ion batteries for electric vehicles, was awarded $161 million in Department of Energy ARRA funds. In a joint venture with the Dow Chemical Company, Dow Kokam has proposed to open two new plants, one in Missouri and one in Michigan. Each plant will create approximately 900 new jobs, including skilled labor and engineering positions.

Originally a maker of energy storage solutions for the Department of Defense, Kokam will now be expanding into the emerging electric vehicle market place. "The automotive business is not one you want to just jump into," said Don Nissanska, president of Kokam America. "We needed to expand rapidly and build larger facilities in order to be competitive… these funds were absolutely pivotal. Getting this assistance allows us to accelerate. What would have taken 10 years to build we can now do in five years or three."

Kokam already has a facility in Missouri, which will facilitate the company's expansion there. The jobs created will be good jobs for highly skilled workers like mechanical and electrical engineers. According to Nissanska, "a well educated workforce that can be trained to run a highly automated manufacturing facility is a critical component to being competitive in the market place. That level of skill is necessary for our product."

Each new facility will require approximately $600 million to develop, build, and fill with skilled workers. "I think the stimulus money and incentive programs definitely accelerated our plan and lowered risk factors in execution," said Nissanska.

In addition to job creation, another goal of the program is to promote innovation and competition to develop new technologies. Some critics question the wisdom of investing in electric vehicles when battery technology is still in its infancy. Nissanska countered these claims: "I can tell you that the efficiency of these vehicles is getting better by the day. You can get 300 kilometers on one charge. By the time we get our facilities running and producing cars, we expect these batteries to be even more efficient and environmentally friendly."

But to truly penetrate the market, investment must be made in charging stations and maintenance facilities. "The number one reason electric vehicles may struggle is not because of the technology, but because of infrastructure," Nissanska explained.

The most obvious sign that the Recovery Act is drumming up the right support and excitement for a new industry comes from Nissanka's own phone lines. "It is amazing how many calls we have been getting from people looking at electric vehicles," he said. "I think the market is moving towards rapid growth."

This rapid domestic growth has placed the United States on track to produce 40 percent of the world's advanced vehicle batteries by 2015, whereas prior to the Recovery Act, America held just a 2 percent market share.

Conclusion

These combined policies – if included in a comprehensive federal clean energy and climate bill – could create up to 88,000 jobs in Missouri by 2030. Many of these jobs would be created in the manufacturing sector – a sector that has been decimated in Missouri as many American manufacturing jobs have been off-shored.

As states like Missouri chart a course toward future job creation and economic prosperity, current growth in the clean energy sector cannot be dismissed. Instead, it is time to implement clean energy and climate policies that limit greenhouse gas emissions, ensure greater development of renewable energy resources, expand domestic clean energy manufacturing, and increase domestic production of fuel efficient cars. Missouri

businesses and workers cannot afford another year or more without strong clean energy and climate measures that create good jobs.

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5. *The American Power Act and Enhanced Energy Efficiency Provisions: Impacts on the U.S. Economy. American Council for an Energy-Efficient Economy.* June 2010. http://aceee.org/pubs/e103.pdf?CFID=4911264&CFTOKEN=17975557

6. Under the American Clean Energy Security Act (H.R. 2454), Missouri's share of national job creation was approximately 2%, as reported in Gold, R. et al. *Energy Efficiency in the American Clean Energy Security Act of 2009: Impact of Current Provisions and Opportunities to Enhance the Legislation* (ACEEE, September 2009). To develop an estimate of the Missouri's job creation from the American Power Act (APA) and American Clean Energy Leadership Act (ACELA), this share was applied to the ACEEE calculation of jobs created by APA + ACELA as reported in Laitner, J. et al. *The American Power Act and Enhanced Energy Efficiency Provisions: Impacts on the U.S. Economy.* American Council for an Energy-Efficient Economy. June 2010.

About the Apollo Alliance

The Apollo Alliance is a strong coalition of unlikely and diverse interests – including labor, business, environmental and community leaders – dedicated to advancing a bold vision for the next American economy, centered on clean energy and good jobs. The Apollo Alliance has affiliates in 17 cities and states, including Missouri.

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