



A Bureau of Business Research Report
From the University of Nebraska—Lincoln

Task 1
Final Report
Relevant Programs, Statutes, and Regulation
Impacting Green Jobs and Occupations in Nebraska

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Executive Summary

This report by the University of Nebraska-Lincoln Bureau of Business Research reviews programs and regulations in Nebraska related to green jobs, particularly those that encourage or require renewable energy production, energy efficiency, protect the environment or otherwise create employment opportunities for workers in green occupations. Programs include incentives that encourage business or spending on local public services that create green jobs. Regulations refer to rules, typically in the form of a statute, that require activities that create green jobs. As might be expected, the study found programs and regulations from a diverse set of sources within the state of Nebraska including the state legislature, local government, and the Nebraska Energy Office. In terms of programs, the study focused on documenting regular annual sources of funding rather than temporary funding from the American Recovery and Reinvestment Act.

A broad group of state and local agencies provided funding for program to encourage green jobs. A major funding source, as might be expected, was the Nebraska Energy Office. But, a diverse group of agencies contributed including the Nebraska Forest Service (woody biomass), the Nebraska Department of Roads and local governments (public transportation), and the Nebraska Department of Environmental Quality. The Nebraska Legislature also provided incentives such as tax credits for ethanol production. Most of these programs have been around for decades. The State of Nebraska also has longstanding regulations to mandate energy efficient public buildings and to encourage energy efficient private buildings through the Nebraska Energy Code. A handful of new regulations will allow more wind, solar, biomass, or landfill gas capacity to be introduced into Nebraska by allowing the construction of more private projects within a public power state. Nebraska, however, does not have a renewable power mandate.

Such programs and regulations that promote the renewable energy industry in Nebraska should support strong growth in new jobs in relevant green occupations. However, when considering the job creation potential of other programs and regulations, it is critical to think about timing. In particular, most relevant Nebraska regulations and incentive programs have been in place for one or more decades. In these cases, the programs and regulations will spur new growth in green jobs as part of ongoing economic growth, but a surge of employment growth is not expected. For example, ongoing regulations for energy efficiency standards in construction will mean growth in green jobs as the economy and population of the state grow, but there will be no rapid increase in green jobs. Finally, one standard concern with any special

incentive or regulation is worth mentioning. In particular, targeted incentives and regulations typically discourage the overall pace of economic growth by raising prices, or reducing the efficiency of business. As a result, these impacts will tend to reduce growth in employment across the board, including employment in green occupations. Such secondary impacts would always mitigate a portion of the positive direct impact of programs and regulations on jobs in green occupations, and in some cases may even exceed these direct impacts.

Introduction

This University of Nebraska-Lincoln Bureau of Business Research report reviews programs and regulations in Nebraska related to green jobs, particularly statutes that encourage or require renewable energy production, energy efficiency, protect the environment or otherwise create employment opportunities for workers in green occupations. The programs and regulations identified represent two ways of promoting economic activity that employs workers in green occupations. Programs primarily refer to incentives that encourage business or spending on local public services that create green jobs. Regulations refer to rules that require activities that create green jobs. Both the incentive and regulation approach can be effective, with the former usually in the form of a subsidy while the latter is typically in the form of a statute.

This study identified many programs and regulations from a diverse set of sources including the state legislature, local government and the Nebraska Energy Office. Some of the programs and regulations are relatively new, underpinning recent growth in jobs in green occupations. Other programs and regulations have been in place for several decades.

Several caveats must be mentioned when reviewing the study. The first caveat is that this study focuses on permanent programs and regulations in place in Nebraska rather than temporary incentive programs related to the American Recovery and Reinvestment Act (ARRA). ARRA programs will be mentioned but only in the context of ongoing programs. The second caveat is a standard concern with any special incentive or regulation. In particular, targeted incentives and regulations typically discourage the overall pace of economic growth by raising prices, or reducing the efficiency of business. As a result, these impacts will tend to reduce growth in employment across the board, including employment in green occupations. Such secondary impacts would always mitigate a portion of the positive direct impact of programs and regulations on jobs in green occupations, and in some cases may even exceed these direct impacts.

Results

Study findings in terms of energy efficiency, renewable energy and protecting the environment are summarized below. Programs are discussed first followed and regulations are examined second. The report is summarized by looking at the consequences for employment in green occupations.

Programs

The Nebraska Energy Office has a number of other initiatives to encourage improvements in energy efficiency, sometimes in partnership with other Nebraska entities. These programs had and will expand temporarily for several years due to ARRA programs but it is important to remember that many of these programs have been ongoing in Nebraska over the last few decades. For example, the low Income Weatherization Assistance program of the Nebraska Energy Office provides an assessment and free assistance with weatherization for low income residents. Funds are used for insulation, replacement of furnaces, sealing ductwork, and sealing leaks in and around doors. The service is provided to roughly 2,000 households per year and the typical cost is around \$2,000. A related program, the “Dollar and Energy Savings Loan” program provides low interest loans to retail customers that install heat pumps, programmable thermostats, insulations, and energy efficient windows. The program is in partnership with local private banks and other entities such as the Nebraska Public Power District. The average loan amount is nearly \$8,000 and there are typically 1,000 to 1,500 projects per year. Both program lead to the purchase of energy efficient equipment and create construction jobs in green occupations.

In addition to these ongoing programs, the Nebraska Energy Office received \$110 million in ARRA money to be spent during over the FY 2009-10 to FY 2011-12 period. This is in addition to millions in funds for the Energy Star Appliance Rebates. These initiatives will not spur permanent job creation but are worth mentioning even if their impact is temporary. The UNL Bureau of Business Research is assessing the economic impact of ARRA funding in a separate report. With the temporary ARRA funding, there will be rapid expansion of the Low Income Weatherization Assistance program due to an expansion of the eligible population (from households at 150% of the poverty level to households at 200%) and increased funding for each eligible household.¹ There also will be a substantial increase in funds available for the Dollar and Energy Savings Loan program. Further, there are new programs such as the Energy Efficiency & Conservation Block Grants for local housing authorities, a grant program for local governments, and direct loans to large cities and counties. There also are grants for research and job training and bonds for “clean renewable energy” projects. These projects in particular may lead to permanent facilities and job creation.

¹ Nebraska Energy Office. Programs and Recovery Act Opportunities.

Several other programs provide incentives for the development of a renewable fuels industry within Nebraska. For example, the Forest Fuels Reduction Program promoted by the Nebraska Forest Service pays between 50% to 100% of the cost of removing excessive materials from private forest in the state. The removed fuels are pelletized to create a biomass fuel. The Nebraska Forest Service also provides free audits and cost studies to help institutions evaluate whether to install biomass furnaces that utilize this fuel. This option is typically most feasible for either public or private institutional buildings.

A primary source of funding for renewable fuels investments in Nebraska is incentives for biofuels development, and in particular, ethanol development. Qualifying ethanol producers receive a state subsidy per gallon of ethanol product on top of the already significant federal subsidy. The domestic ethanol industry also receives an effective subsidy through hefty import tariffs on ethanol produced overseas.

Qualifying ethanol producers have earned as much as \$0.18/gallon. Further, since ethanol plants are very capital-intensive and higher wage operations, new ethanol plants can benefit from many of the same subsidies available to other Nebraska manufacturers through the *Nebraska Advantage*² program or its predecessor programs. Perron (2005) estimated that tax credits for investment and employment would be equivalent to a \$0.07/gallon subsidy per gallon of ethanol, at least during the first seven years of production.³ Ethanol producers also can benefit from other state programs such as LB620, which provides an income tax credit. Local governments also can subsidize new ethanol production facilities. Tax increment financing provided by local governments helps pay for infrastructure development around ethanol plants, which can be a significant part of plant costs.

State and local government in Nebraska also have programs to provide funding in support of local public transportation, recycling, and clean water and sewer systems. For example, the State of Nebraska has provided funding to rural transit operations and equipment, including buses, through the Rural Transit Assistance Program. Historic funding levels have been nearly \$2 million annually.⁴ Rural transit operators are the target of funding but urban transit providers can receive unutilized funding, when available. These funds are appropriated by the Nebraska

² Nebraska Department of Economic Development.

³ Perron, Richard K., 2005. "Ethanol in Nebraska," *Cornhusker Economics*. February 16, 2005. Published by University of Nebraska-Lincoln Cooperative Extension.

⁴ Transportation Cooperative Research Program, 2003. "Characteristics of State Funding for Public Transportation – 2002" *Research Results Digest*: No. 60.

legislature out of the Highway Cash Fund of the Nebraska Department of Roads. Local government provides even greater funding for public transportation programs. For example, in fiscal year 2010-11, the StarTran bus service operating in the City of Lincoln received \$5.3 million in funding from the City of Lincoln in addition to the \$300,000 received from the State of Nebraska.⁵

State and local government also provide funding for recycling programs throughout the state. The Nebraska Department of Environmental Quality (NDEQ) operates the Waste Reduction and Recycling Incentives Grant program. This program is funded through a \$25 annual fee on all retailers with sales of \$50,000 or more and is used to provide grants to recycling systems, materials exchange programs, intermediate processing facilities, composting facilities and programs, and incineration for energy production.⁶ Similarly, the Litter Reduction and Recycling Grant program of NDEQ supports programs to reduce litter, promote recycling or relevant education with fees placed on manufacturers, retailers and wholesalers of products deemed likely to contribute to litter.⁷

Regulations

One important regulation impacting green jobs is the Nebraska Energy Code, administered by the Nebraska Energy Office. State statute requires that state buildings meet this code and that all new buildings, and additions and renovations of existing buildings, must follow the Nebraska Energy Code.^{8 9} The Nebraska Energy Code in turn is the same as the 2003 International Energy Conservation Code, and has numerous requirements in terms of insulation, lighting fixtures, architectural design, and the like. All local governments must enforce a code for lighting and thermal efficiency which is equivalent to the Nebraska Energy Code, so local governments can monitor the energy code as part of normal code inspection efforts. Local governments, however, can apply for an exemption if following such a code is not “economically

⁵ City of Lincoln *StarTran Fact Sheet* (Accessed on May 10, 2011 at <http://www.lincoln.ne.gov/city/pworks/startran/factsht.htm>)

⁶ Nebraska Department of Environmental Quality. Description of *Water Reduction and Recycling Incentives Grants* (Accessed on May 10, 2011 at <http://www.deq.state.ne.us/IWM.nsf/Pages/WRRIGP>)

⁷ Nebraska Department of Environmental Quality. Description of Litter Education and Recycling Grants (Accessed on May 10, 2011 at <http://www.deq.state.ne.us/IWM.nsf/Pages/LRRGP>)

⁸ Legislature of Nebraska, Ninety-Eighth Legislature, Second Session. *LB 888*.

⁹ Nebraska Administrative Code, Title 107, State Energy Office. *Rules and Regulations Concerning the Nebraska Energy Code*.

justified.” The implication of the State Energy Code is that a portion of construction industry occupations are effectively green occupations, as workers at new buildings or addition and renovation sites must install lighting, insulation, and other home components using energy efficient techniques.

Requirements that Nebraska gasoline stations to offer E-10 fuel is another regulation that promotes green industries, in particular, the renewable fuels industry. Nebraska gasoline stations offer E-10 fuel in place of the “super” alternative to regular unleaded gasoline. Some stations also voluntarily offer E-85 fuels. In combination with similar laws in other corn-belt states, this regulation supports development of the ethanol industry. For example, recent estimates suggest that E-10 accounts for approximately 60% of the fuel sold in the State of Nebraska.¹⁰

While new regulations often mandate activity, sometimes regulatory changes are required simply to allow certain activities. This is the case for renewable electric power in Nebraska. The State of Nebraska, unlike some neighboring states, does not have a mandate for renewable electric production. On the contrary, strict guidelines for pursuing the lowest cost power has made it difficult for Nebraska’s publically owned utilities to invest in wind, solar, biomass, or landfill gas electric power generation. What Nebraska has done in the last year is change regulations to make it more feasible for renewable electricity producers to come into the state and operate, and for public power companies to produce up to 10% of its power from these renewable sources, notwithstanding the lowest cost requirements.¹¹ Further, private power producers can operate in the state and produce power for export provided the producers have a power purchase agreement from an out-of-state entity with at least a ten-year duration.¹²

These new regulations will allow more wind, solar, biomass, or landfill gas capacity to be introduced into Nebraska. New regulations also allow for Community-Based Energy Development (C- BED) wind power projects.¹³ Such C-BED projects also are eligible for an exemption of sales tax on purchases of personal property for operating. These new regulations, or in one case, incentives, provide potential for expansion of wind power in Nebraska, but do not

¹⁰ Nebraska Ethanol Board, www.ne-ethanol.org

¹¹ Nebraska Revised Statutes, 70-1014.01. Special generation application; approval; findings required; eminent domain.

¹² Nebraska Revised Statutes, 70-1001.01.

¹³ Nebraska Revised Statutes, 77-2704.57. Personal property used in C-BED project or community-based energy development project; exemption; Tax Commissioner; powers and duties; Department of Revenue; recover tax not paid.

mandate expansion. This last point is perhaps the most important point to be made about Nebraska regulation and renewable energy. Unlike Iowa and a number of other U.S. states, Nebraska does not have a renewable power mandate requiring a certain percentage of production from renewable sources.

Consequences for Green Jobs Growth

The proceeding program and regulatory summary informs expectations about the growth of green jobs in Nebraska. The incentive programs and regulations in Nebraska provide substantial impetus for weatherization or energy efficiency standards in lighting, fixtures, and appliances. As many lighting, fixtures and capital equipment for alternative energy are imported, the primary impact is to create employment opportunities in the construction industry. Programs and regulations that promote the renewable energy industry in Nebraska also will support jobs in green occupations in the renewable energy sector.

But, when considering the potential growth in new jobs, it is critical to think about the timing of these programs and regulations. Many of the regulations and incentive programs mentioned in this section have been in place for one or more decades. In these cases, the programs and regulations will spur new growth in green jobs as part of ongoing economic growth. For example, ongoing regulations for energy efficiency standards in construction will mean growth in green jobs as the economy and population of the state grows. But, there will be no rapid increase in green jobs as these programs and regulation have been in place for many years, and are already reflected in the current employment structure. Outside of recession conditions, there only will be a slow, steady growth in jobs in these green occupations.

Some new programs and regulations, however, may spur rapid job growth in selected green occupations. Newly enhanced efforts by the Nebraska State Forestry Agency to develop and utilize pelletized wood chips could lead to faster growth in green occupations for workers who audit private forest land, clear excessive bio-mass from forest land, and chip and process that biomass into pellets. These new initiatives also may transform heating system workers at large institutions that burn the pellets into green workers. Perhaps on a larger scale, the body of new initiatives that encourage the development of renewable electric power in Nebraska could lead to a substantial increase in these types of occupations. The result could be substantial growth for occupations in the wind, solar, biomass, or landfill gas electric power generation

industries in Nebraska over the next decade. Further, many existing transmission and distribution workers in Nebraska utilities also could be transformed into green workers, as they now work to transmit and distribute renewable electric power rather than electric power derived from fossil fuels.

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