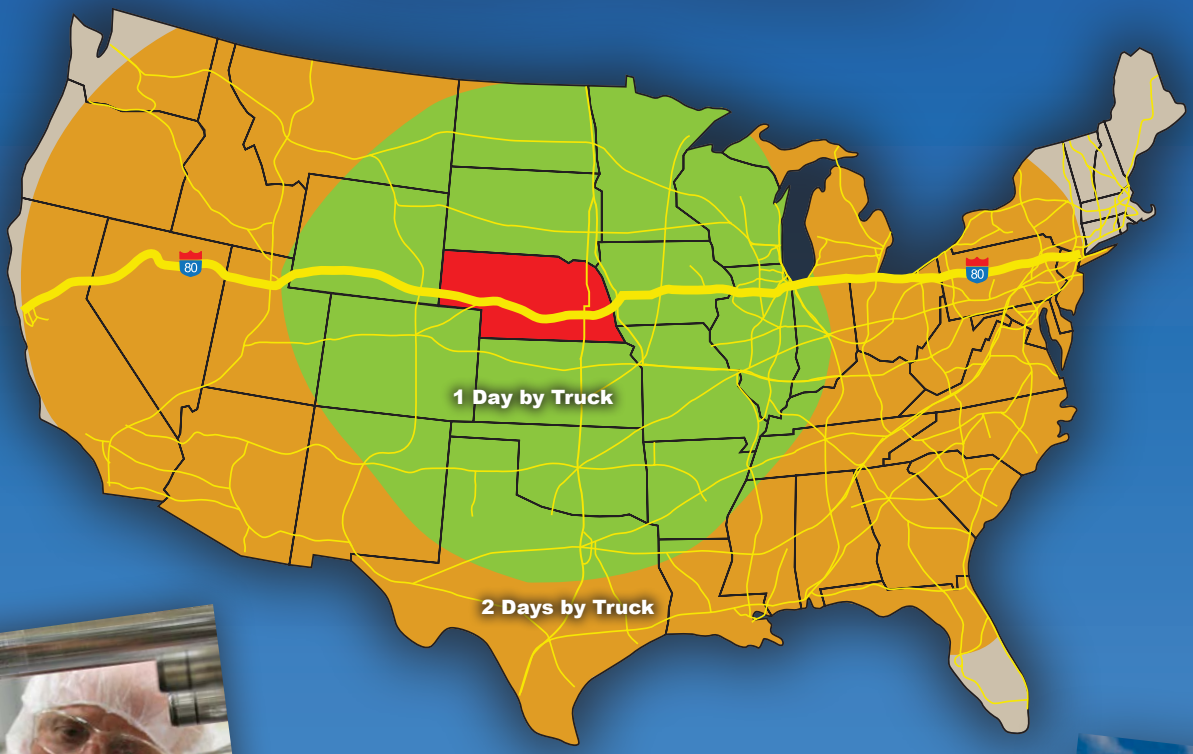
Nebraska

Profit Opportunities for Manufacturers of Plastics Products



NEBRASKA
PROFIT OPPORTUNITIES FOR MANUFACTURERS OF PLASTICS PRODUCTS

prepared by

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EXECUTIVE SUMMARY

Nebraska's attractive business climate, a productive and well-educated labor force, competitive labor and energy costs, and central location are among the wide range of advantages the state offers manufacturers of plastics products. The global economic downturn from 2007 to 2009 has adversely affected the demand for plastics products and U.S. manufacturers continue to face rapidly increasing foreign as well as domestic competition. For an industry characterized by many small- and medium-sized production facilities, Nebraska provides substantial advantages in reducing costs, expanding capacity, and becoming more competitive.

The plastics product manufacturing industry consists of more than 12,000 establishments engaged in molding primary plastics and fabricating miscellaneous finished plastics products. As the output of the industry is made up largely of intermediate products that are inputs for other manufactured goods, the short-run outlook for the industry is closely related to the overall performance of the U.S. economy.

This study has been developed specifically for use by manufacturers of plastics products to show how a Nebraska plant location can help them better respond to market conditions and significantly improve their competitive positions. Discussed are the many locational advantages the state offers, including new performance-based tax incentives that further enhance an already high-ranking business climate. To demonstrate quantitatively Nebraska's locational advantages, the study includes an analysis of geographically variable labor and energy costs—two areas important to plastics products manufacturers where Nebraska compares particularly favorably.

The analysis makes cost comparisons among states on the basis of a model manufacturing plant. The model plant assumes employment of 50 production workers and the manufacture of a product representative for the plastics products industry. Sixteen states are examined in the analysis. Besides Nebraska, these states include the top ten states, in terms of industry production as well as other states near Nebraska with which it typically competes for industrial location projects.

In the model plant analysis, estimated labor-related costs include the direct wages paid to production workers and costs associated with workers' compensation insurance, unemployment insurance, social security, and fringe benefits. Compared to the 15 alternative states, Nebraska is found to offer an average annual savings of $364,297 in labor-related costs, which is 15.3 percent less than the average labor costs for the other states.

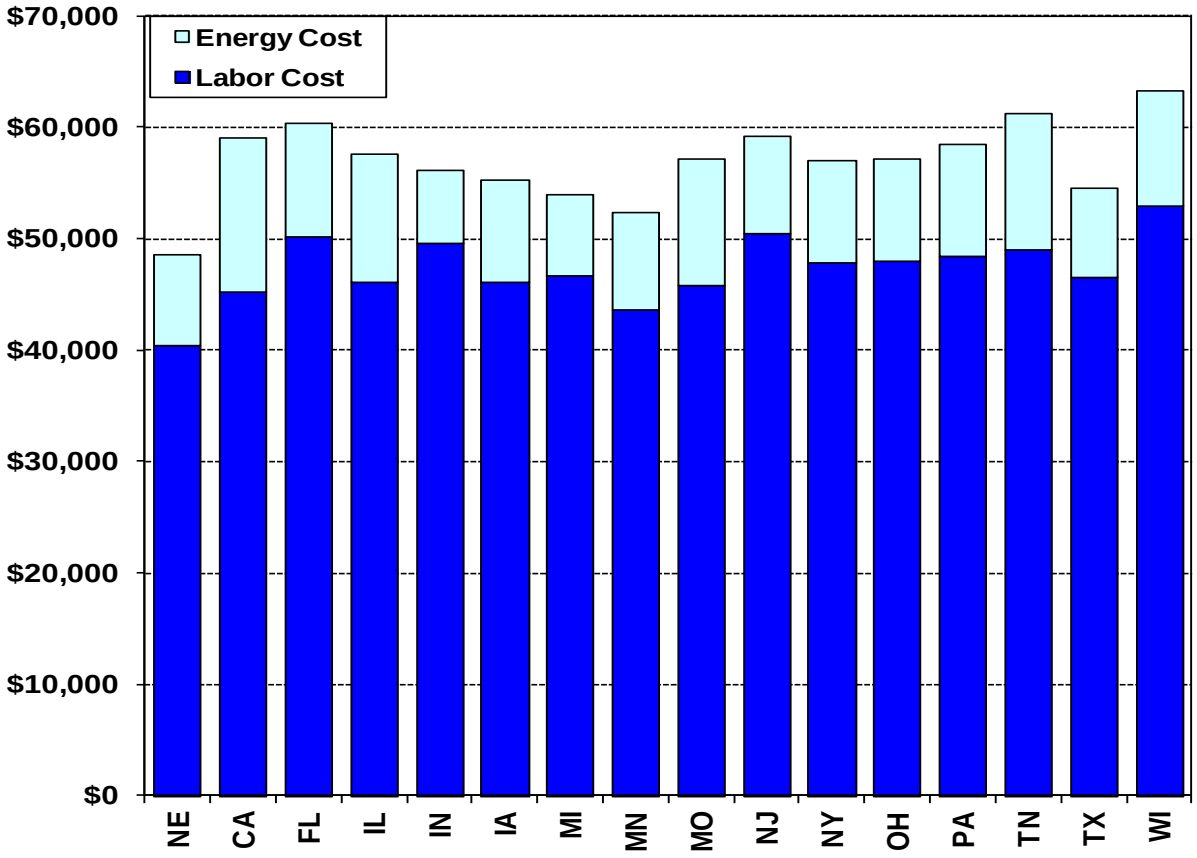
This study also concludes that a Nebraska plant location offers a significant energy cost advantage. Industrial electric rates for the alternative states average 20.4 percent more, and the average industrial gas rate is 17.4 percent higher than Nebraska. Combining these advantages, Nebraska's energy cost for the model plant is 16.6 percent less than the average for the other 15 alternative locations.

Together, Nebraska's annual labor and energy costs for the model plant are $445,065, or 15.5 percent less than the average costs for the 15 alternative states. Conversely, the average labor and energy costs in the alternate 15 states are 18.3 percent more than the Nebraska labor and energy costs.

Figure 1 provides a summary of the labor and energy costs for the model plant for Nebraska and the 15 alternate plant sites. These costs are shown on a per-production-worker basis.

Figure 1

Labor and Energy Costs per Production Worker for Plastics Product Manufacturers (NAICS 3261)



Calculated labor (wages, workers' compensation insurance, unemployment insurance, social security, and fringe benefits) and energy (electricity and natural gas) costs for a manufacturer of plastics product (NAICS 3261).

Source: Calculated from data presented in Tables 13 and 15.

PART A

THE PLASTICS PRODUCTS INDUSTRY

Plastics Product Manufacturing was the largest manufacturing industry group, when measured by employment, in the United States in 2010. As the demand for plastics products is tied to overall economic growth, the industry underwent a dramatic contraction during the 2007–2009 Recession. As the data shown in Table 1 indicate, industry shipments grew by 23.2 percent, from $141,387.9 million in 2002 to $174,142.6 million in 2006, before declining by 20.5 percent from 2006 to 2009. From 2009 to 2010, industry shipments grew by 9.2 percent, reaching $151,312.2 million in 2010 and achieving 80.4 percent of their 2002 inflation adjusted level.

The data presented in Table 1 also show total employment declining 32.1 percent from 802,200 in 2002 to 544,300 in 2010. During the same eight-year period, the number of production workers declined 32.7 percent. In 2005, annual capital investment, $5,620.2 million, was 11.0 percent below its 2002 level of $6,311.3 million. From 2005 to 2008 annual capital expenditures increased 15.1 percent to $6,467.6 million before declining 31.0 percent to $4,463.8 million in 2009. From 2009 to 2010, annual capital investment increased by 8.9 percent to $4,859.3 million.

Over time, advances in the plastics products manufacturing industry can generally be attributed to a strong demand for plastics used in motor vehicles, construction, consumer goods, packaging, and electric/electronic equipment. Recent economic data suggest the growth rate of the U.S. economy is beginning to accelerate and this is a very positive sign for the Plastics Product Manufacturing Industry.

Table 1

The Plastics Product Manufacturing Industry (NAICS 3261), Characteristics and Trends, Selected Years, 2002–2010*

Year	Total Employees	Production Workers	Value Added	Value of Products Shipments	Capital Expenditures	Avg. Hourly Earnings, Prod. Wrkrs.
	- - - - (Thousands) - - - -		- - - - (Millions $) - - - -			($)
2002*	802.2	624.1	75,188.6	141,387.9	6,311.3	13.78
2005*	726.0	562.6	78,877.5	163,973.3	5,620.2	14.72
2006*	715.2	557.1	82,761.8	174,142.6	6,013.5	15.02
2007	700.0	540.7	81,892.1	170,467.7	6,144.5	15.34
2008	651.8	499.7	76,502.7	167,422.5	6,467.6	16.12
2009	549.1	421.1	66,891.7	138,503.1	4,463.8	16.02
2010	544.3	420.3	72,967.5	151,312.2	4,859.3	16.78

Data for the subsector as defined by the 2007 definition for NAICS 3261, Plastics Product Manufacturing.

*Due to minor changes in industry definitions, data for 2002, 2005, and 2006 are not strictly comparable with late years.

Source: U.S. Bureau of the Census, *Census of Manufactures, Geographic Series 2002 and 2007*; and *Annual Survey of Manufactures, 2006, 2008, and 2010.*

I. Industry Structure

The *2007 North American Industrial Classification System (NAICS)* subdivides the Plastics Product Manufacturing Industry (NAICS 3261) into seven 5-digit categories in order to define the major components of the industry. Some of the 5-digit groupings are divided further into divisions of 6-digit NAICS categories. The components of the Plastics Product Manufacturing Industry by NAICS code are:

3261 Plastics Product Manufacturing

32611 Unsupported Plastics Film. Sheet, and Bag Manufacturing

- *326111* Plastics Bag Manufacturing
- *326112* Plastics Packaging Film and Sheet (including laminated) Manufacturing
- *326113* Unlaminated Plastics Film and Sheet (except packaging) Manufacturing

32612 Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Manufacturing

- *326121* Unsupported Plastics Profile Shape Manufacturing
- *326122* Plastics Pipe and Pipe Fitting Manufacturing

32613 Laminated Plastics Plate, Sheet (except packaging), and Shape Manufacturing

32614 Polystyrene Foam Product Manufacturing

32615 Urethane and Other Foam Product (except polystyrene) Manufacturing

32616 Plastics Bottle Mmanufacturing

32619 Other Plastics Product Manufacturing

- *326191* Plastics Plumbing-Fixture Manufacturing
- *326192* Resilient Floor Covering Manufacturing
- *326199* All Other Plastics Product Manufacturing

The data presented in Table 2 provide a basic description of the Plastics Product Manufacturing Industry with further disaggregation into the major 5-digit NAICS industry subgroups. As indicated by these data, the largest industry subgroup is NAICS 32619 (Other Plastics Product Manufacturing), which recorded 2007 shipments of $88,486.4 million, or 51.9 percent of the total for NAICS 3261 (Plastics Product Manufacturing). This industry subgroup also accounted for 65.2 percent of the total establishments in the industry and 63.6 percent of the production workers.

In terms of the average size of establishments, the NAICS 32619 (Other Plastics Product Manufacturing) subgroup had 43.4 production workers per establishment in 2007. This average size was only slightly smaller than that for the plastics product industry as a whole, 44.6 production workers. The industry subgroup NAICS 32616 (Plastic Bottle Manufacturing) had the largest average size of establishment with 63.1 production workers per establishment. In terms of value of shipments or output, the subgroup NAICS 32616 (Plastics Bottle Manufacturing) led the rest of the industry with average shipments per establishment of $25.3 million. This level of shipments was 79.9 percent greater than the average of $14.0 million for the industry as a whole.

Capital investment for the Plastics Product Manufacturing Industry in 2007 totaled $6,144.5 million, which represented an investment of $0.075 for each dollar of value added (7.5 percent of value added). Industry subgroups were the ratio of capital investment to value added exceeded this industry average in 2007 were NAICS 32616 (Plastics Bottle Manufacturing) at 12.4 percent, NAICS 32614 (Polystyrene foam product manufacturing) 9.3 percent, and NAICS 32611 (Unsupported Plastics Film, Sheet, and Bag Manufacturing) 8.8 percent.

Table 3 presents total employment, the number of production workers, value of shipments, value added, and capital expenditures for the plastics product industry for 2010. Also, data are included for the major 5-digit NAICS industry subgroups. Figure 2 shows the distribution of

Table 2

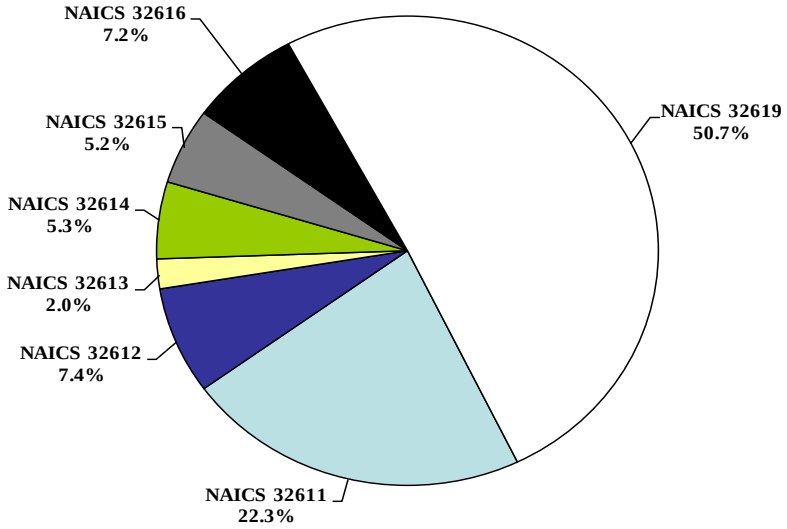
Plastics Product Industry (NAICS 3261), Number of Companies and Establishments, All Employees and Production Workers, Value of Shipments, Value Added, and Capital Expenditures by Industry Group, 2007

NAICS Code	Industry Description	Number of Companies	Number of Establishments	All Employees	Production Workers	Value of Shipments	Value Added	Capital Expenditures
						- - - - -(Thousand $)- - - - -		
3261	**Plastics Product Mfg.**	**9,656**	**12,136**	**700,000**	**540,726**	**170,467,731**	**81,892,110**	**6,144,488**
32611	Unsupported Plastics Film, Sheet, and Bag Mfg.	1,101	1,390	95,300	73,552	34,576,447	15,005,899	1,315,176
32612	Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Mfg.	698	907	44,310	33,424	14,001,470	6,323,384	393,004
32613	Laminated Plastics Plate, Sheet (except packaging), and Shape	243	257	12,802	9,826	3,715,285	2,046,100	106,198
32614	Polystyrene Foam Product Mfg.	368	515	29,983	23,795	8,135,696	3,544,064	329,955
32615	Urethane and Other Foam Product (except polystyrene) Mfg.	482	685	35,644	26,813	9,754,264	4,128,619	229,963
32616	Plastics Bottle Mfg.	186	467	34,630	29,482	11,798,132	5,119,641	633,712
32619	Other Plastics Product Mfg.	6,809	7,915	447,331	343,834	88,486,437	45,724,403	3,136,480

Source: U.S. Bureau of the Census, *Census of Manufactures, Summary Series 2007*.

Figure 2

Value of Shipments by Industry Subgroup, Plastics Product Manufacturers (NAICS 3261), 2010



Total 2010 Shipments - $151,312.2 Million

NAICS 32611 Unsupported plastics film, sheet, and bag manufacturing

NAICS 32612 Plastics pipe, pipe fitting, and unlaminated profile shape manufacturing

NAICS 32613 Laminated plastics plate, sheet (except packaging), and shape manufacturing

NAICS 32614 Polystyrene foam product manufacturing

NAICS 32615 Urethane and other foam product (except polystyrene) manufacturing

NAICS 32616 Plastics bottle manufacturing

NAICS 32619 Other plastics product manufacturing

Table 3

Plastics Product Manufacturing Industry (NAICS 3261), Employees, Production Workers, Value of Shipments, Value Added, and Capital Expenditures by Industry Group, 2010

NAICS Code	Industry Description	All Employees	Production Workers	Value Added	Value of Shipments	Capital Expenditures
				- - - - - (Thousand $) - - - - -		
3261	**Plastics Product Mfg.**	**544,320**	**420,283**	**72,967,453**	**151,312,240**	**4,859,342**
32611	Unsupported Plastics Film, Sheet, and Bag Mfg.	89,447	69,792	14,990,881	33,697,297	806,291
326111	Plastics Bag Mfg.	29,883	25,096	3,951,536	8,989,357	215,379
326112	Plastics Packaging Film and Sheet (including laminated) Mfg.	25,054	19,233	4,198,510	9,593,099	230,915
326113	Unlaminated Plastics Film and Sheet (except packaging) Mfg.	34,510	25,464	6,840,835	15,114,841	359,998
32612	Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Mfg.	36,246	27,587	4,977,360	11,137,428	267,686
326121	Unsupported Plastics Profile Shape Mfg.	16,832	12,772	2,328,518	4,255,060	130,684
326122	Plastics Pipe and Pipe Fitting Mfg.	19,414	14,816	2,648,842	6,882,368	137,002
32613	Laminated Plastics Plate, Sheet, and Shape Mfg.	9,147	7,044	1,510,084	3,072,176	140,238
32614	Polystyrene Foam Product Mfg.	25,586	20,764	3,763,686	7,995,962	100,892
32615	Urethane and Other Foam Product (except polystyrene) Mfg.	26,093	20,149	3,238,972	7,899,032	193,103
32616	Plastics Bottle Mfg.	30,988	26,786	4,832,871	10,846,368	393,148
32619	Other Plastics Product Mfg.	326,814	248,161	39,653,600	76,663,976	2,957,983

Source: U.S. Bureau of the Census, 2010, *Annual Survey of Manufactures, Statistics for Industry Groups and Industries*.

industry shipments for each of the major industry subgroups for 2010.

II. Industry Production Characteristics

Plastics products manufactures can be widely distributed geographically because of the relatively high per unit value of their products. According to the 2007 Commodity Flow Survey conducted by the U.S. Bureau of the Census, the value per ton of plastics products shipped was 3.4 times that for all commodities shipped.

Table 4 provides data for selected production characteristics for the plastics product industry for 2002, 2007, and 2010. These data indicate that establishments in the Plastics Product Manufacturing Industry (NAICS 3261) are more labor intensive than manufacturing establishments generally. In 2010, production workers accounted for 77.2 percent of total employment in the industry, compared to 69.3 percent for all manufacturing. The industry's value added per production worker was $173,615 in 2010, while for all industry groups it was 72.0 percent greater ($298,597).

From 2002 to 2007 manufacturers of plastics products experienced significant increases in materials and energy prices. During this period the cost of materials per dollar of output increased by 10.9 percent; the cost of electricity per dollar of output increased 4.0 percent; and the cost of purchased fuel per dollar of output increased 25.5 percent. From 2007 to 2010, input price increases abated somewhat and the cost of materials per dollar of output rose only 0.3 percent. During the same 2007 to 2010 period the cost of purchased fuels per dollar of output decreased 20.9 percent and the cost of electricity per dollar of output increased 9.2 percent.

In terms of total energy costs relative to value added by manufacturer, the plastics product industry is 19.5 percent more energy intensive than the manufacturing sector as a whole. Moreover, the plastics product industry has a much higher reliance on electricity in its

Table 4

Production Characteristics for the Plastics Product Manufacturing Industry (NAICS 3261), 2002, 2007, and 2010

				Percent Change	
	2002*	2007	2010	2002-2007	2007-2010
Establishments					
Number	13,038	12,136	N/A	-6.9	N/A
With 20+ Employees	6,797	6,242	N/A	-8.2	N/A
All Employees					
Number [thousands]	797.0	700.0	544.3	-12.2	-22.2
Payroll [million $]	25,606	26,321.0	22,586.5	2.8	-14.2
Production Workers					
Number [thousands]	620.3	541.0	420.3	-12.8	-22.3
Hours [millions]	1,224.6	1,102.0	845.4	-10.0	-23.3
Wages [million $]	16,868.5	16,910.0	14,187.3	0.2	-16.1
Average Hourly Wage [$]	13.77	15.34	16.78	11.4	9.4
Value Added by Manufacture [million $]	74,160.8	81,892.0	72,967.5	10.4	-10.9
Cost of Materials [million $]	65,973.1	89,034.0	79,251.7	35.0	-11.0
Value of Shipments [million $]	140,096.9	170,468.0	151,312.2	21.7	-11.2
Cost of Purchased Fuels and Electric Energy					
Electric Energy [million $]	2,529	3,200.0	3,101.0	26.5	-3.1
Purchased Fuels [million $]	526.4	804.0	564.7	52.7	-29.8
Quantity of Purchased Electric Energy [million kWh]	44,408.3	51,814.0	42,865.9	16.7	-17.3

*Due to minor changes in industry definitions, data for 2002 are not strictly comparable with later years.
N/A - Not Available
Source: U.S. Bureau of the Census, *Census of Manufactures, Geographic Series 2002* and *2007; Industry Series;* and *Annual Survey of Manufactures, 2010, Statistics for Industry Groups and Industries.*

energy mix. As the data presented in Table 4 indicate, the cost of purchased electricity in 2010 comprised 84.6 percent of total energy costs for manufacturers of plastics products, compared to 53.8 percent for all manufacturing establishments.

Given the high degree of dependence on electricity as an energy source, it is evident the plastics product industry derives above average benefits from readily available, relatively low-cost sources of electricity.

III. Industry Location Characteristics

Showing the geographic distribution of the plastics product industry, Table 5 presents data on employment and wages, value of shipments, and capital expenditures for 16 selected states. As indicated in the table, the 16 states accounted for $99.5 billion or 65.8 percent, of the $151.3 billion of total shipments of manufactured plastics products in 2010.

Included among these states are the top ten plastics producing states as well as Nebraska and neighboring states that typically compete with Nebraska for plant locations. The 16 states are included in this study as alternative sites for plant locations and are evaluated in Part B of this report using the geographically variable labor and energy costs.

In terms of value of shipments, the plastics product manufacturing industry is largest in Ohio, followed closely by California, Texas, and Illinois. Pennsylvania, Michigan, Indiana, Wisconsin, North Carolina, and Georgia also ranked in the top ten in terms of value of shipments.

As the data presented in Table 5 indicate, the 16 states included in this study accounted for 65.2 percent of the production workers and 70.0 percent of the total capital expenditures by the plastics product manufacturing industry in 2010. California, with 34,721 production workers, led the nation in this category for the plastics product manufacturing industry group in 2010.

Table 5

Location Characteristics of Establishments in the Plastics Product Manufacturing Industry (NAICS 3261), 2010

State	Employees	Production Workers	Average Hourly Earnings	Capital Expenditures	Value of Shipments	% of U.S. Value of Shipments
				($1,000)	($1,000)	(%)
Nebraska	**3,207**	**2,531**	**$14.33**	**25,667**	**710,499**	**0.50**
California	46,587	34,721	15.87	322,362	11,614,967	7.70
Colorado	3,146	2,552	17.81	22,836	755,363	0.50
Georgia	14,464	11,635	16.34	131,210	5,395,879	3.60
Illinois	34,894	27,290	17.30	323,546	11,163,100	7.40
Indiana	28,307	22,606	16.32	234,404	7,267,619	4.80
Iowa	8,332	6,469	16.45	70,208	2,253,448	1.50
Kansas	7,452	6,255	15.52	72,749	2,253,290	1.50
Michigan	31,867	24,034	16.07	226,104	8,083,573	5.30
Minnesota	10,312	7,602	17.74	559,758	2,575,175	1.70
Missouri	10,197	7,965	16.97	100,570	2,735,331	1.80
North Carolina	18,299	13,773	16.95	182,633	5,936,832	3.90
Ohio	43,502	33,787	17.10	355,067	11,717,728	7.70
Pennsylvania	32,453	24,816	17.17	268,316	8,831,332	5.80
Texas	34,176	26,938	16.46	306,191	11,384,105	7.50
Wisconsin	26,538	20,912	18.72	199,577	6,832,265	4.50
Total Sel. States	353,733	273,886	$16.79	3,401,198	99,510,506	N/A
Percent of U.S.	65.0	65.2	N/A	70.0	65.8	65.8
Total U.S.	544,320	420,283	$16.78	4,859,342	151,312,240	100.00

N/A - Not Applicable
Source: U.S. Bureau of the Census, *Annual Survey of Manufactures, Geographic Area Statistics, 2010*.

IV. Industry Outlook

The market outlook for the Plastics Product Manufacturing Industry is dependent on many factors, including the overall performance of the U.S. economy, economic and business conditions internationally, and the competitive position of U.S. plastics products manufacturers relative to their foreign competitors.

Over the longer term, the plastics product industry is expected to record positive growth trends. As indicated by the data presented in Table 6, output in the Plastics Products Manufacturing Industry is projected to increase by 34.1 percent in real, inflation-adjusted terms between 2010 and 2020. As the data presented in Table 6 indicate, this is higher than the projected increase for output for the total manufacturing sector (31.2 percent).

Employment in the Plastics Product Manufacturing Industry sector (NAICS 3261) is projected to increase by 20.1 percent between 2010 and 2020, while overall manufacturing employment is projected to decline 0.6 percent. During the ten-year period, 2010 to 2020, labor productivity, as measured by output per worker, is projected to increase 11.7 percent for the plastics product manufacturing industry and 32.0 percent for the total manufacturing sector.

On a long-term basis, a clearly positive trend for the plastics product industry is the accelerating substitution for other materials. Food products, for example, are increasingly packaged in plastic containers usable directly in conventional or microwave ovens. In addition, the demand for blow-molded plastic bottles should increase as liquid household cleaning products gain market share at the expense of powdered items. And the much-reported growing use of plastic parts in airplanes and automobiles will particularly benefit injection-molded and compression-molded plastics products.

Table 6

Projections of Employment and Output for the Manufacturing Sector and the Plastics Product Manufacturing Industry, 2000–2020

Sector	2000	2010	2020	% Change 2000-2010	% Change 2010-2020
All Manufacturing					
Employment (1,000)	17,262.9	11,524.0	11,450.9	-33.2	-0.6
Output (Billion $)[(a)]	4,585.1	4,363.0	5,723.3	-4.8	31.2
Plastics Product Manufacturing					
Employment (1,000)	736.8	499.5	599.8	-32.2	20.1
Output (Billion $)[(a)]	159.0	129.0	173.0	-18.9	34.1

[(a)] Output in billions of chain weighted constant (2005) dollars.

Source: U.S. Bureau of Labor Statistics, Employment Projections Program, **www.bls.gov/emp**/.

Part B

Nebraska Advantages for Manufacturers Of Plastics Products

Nebraska offers a wide range of locational advantages to manufacturers of plastics products. In the continuing portion of this study, Nebraska resources and location attributes important to manufacturers of plastics products are discussed. An evaluation of geographically variable labor and energy costs for selected states follows using a model establishment manufacturing plastics products.

I. Nebraska Location Resources

Nebraska lies near both the population and geographic centers of the United States (Figure 3). The nation's population center moved across the Mississippi River for the first time in 1980 and continues to shift westward. The current population center is near Plano, Missouri, and the geographic center is in Butte County, South Dakota (the geographic center of the 48 contiguous states is Smith County, Kansas). Within one day, goods shipped by truck from Nebraska reach more than 25 percent of the U.S. population; add a second day and the percentage skyrockets to more than 90 percent.

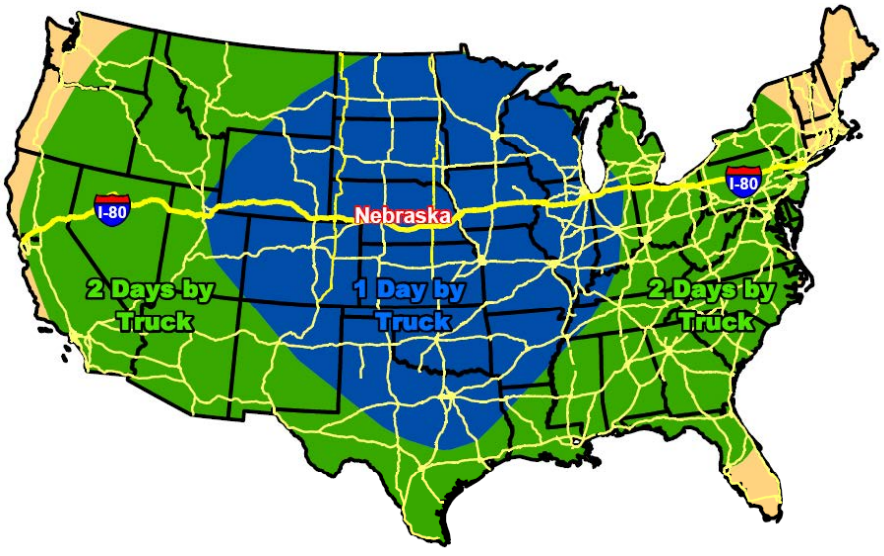
In addition to being a prominent location for national markets, Nebraska is well situated to serve international markets, which are important to many plastics products manufacturers. For example, the Union Pacific's main railroad line in central Nebraska is the busiest freight corridor in the world; many of the trains carry grain to West Coast ports for shipment around the world. Also, the state currently has operating Foreign Trade Zones in Omaha (Zone No. 19, Grantee: Omaha Chamber of Commerce) and in Lincoln (Zone No. 59, Grantee: Lincoln Chamber of Commerce). Foreign Trade Zones reduce or eliminate duties and excise taxes by allowing "domestic activity involving foreign items to take place as if it were outside of U.S. Customs territory."

Transportation

Nebraska's central location is especially advantageous for transportation services. The state's communities are connected by a good highway system that includes 8,539 miles of interstate, freeway, and arterial roads. The system includes a 455-mile stretch of Interstate 80, the most traveled east-west

Figure 3

Truck Access to Regional and National Markets



transcontinental route of the interstate highway system. North-south interstate highways that add to Nebraska's market include Interstate 29, which passes along the state's eastern border in Iowa, and Interstate 25, which passes in close proximity to the state's western border.

More than 13,500 licensed motor carriers with worldwide connections are based in Nebraska and serve businesses throughout North America. Largely because of Nebraska's good interstate connections, one of the largest trucking companies in the country, Werner Enterprises, is headquartered in Omaha.

The nation's two largest rail companies—BNSF Railway Company and Union Pacific Railroad—provide rail service to many Nebraska communities. Ten freight railroads operate more than 3,200 miles of track throughout Nebraska. No major city in the United States is more than five days by rail from Nebraska. Amtrak provides passenger service in Nebraska with stops in five communities.

The Union Pacific (UP) maintains headquarters in Omaha and is one of the largest railroads in North America with 32,000 miles of track in the western two-thirds of the country. UP operates more than 1,000 miles of track in Nebraska. The Harriman Dispatching Center in Omaha is the most technologically advanced dispatching facility in the country. Union Pacific's Bailey Yard in North Platte is the largest rail freight car classification yard in the world. The yard covers 2,850 acres, switches 10,000 rail cars daily, and has 315 miles of track. Union Pacific's main line in central Nebraska is the busiest rail freight corridor in the world, with more than 145 trains operating over the line every 24 hours.

BNSF Railway Company (BNSF) operates more than 1,500 route miles of track in Nebraska, is one of the state's primary railroads transporting two million carloads of freight in Nebraska each year, and employs more than 4,000 people in the state. BNSF has rail yards in Alliance, Lincoln, McCook, and Omaha; intermodal and automotive facilities in Omaha; and mechanical shops in Alliance and Lincoln.

Commercial airline service is available in nine Nebraska cities, providing direct service to major hubs. Scheduled air freight service is provided to five additional communities with on-demand service available. A total of 81 public-use airports are located throughout the state.

With the Missouri River forming Nebraska's eastern border, the state is a western terminus for barge traffic. Barges have access to both the Gulf of Mexico via the Mississippi River and to the Atlantic Ocean via the Great Lakes and the St. Lawrence Seaway.

Utilities

In providing a full range of reliable utilities with many cost advantages, Nebraska offers additional benefits to plastics products manufacturers. Nebraska's electric rates for typical industrial customers are 27.6 percent less than the U.S. average and are among the lowest of the 48 contiguous states (Figure 4). This benefit is of particular importance to the plastics products manufacturing industry, with its high level of electricity use relative to total energy consumption. A statewide grid system with regional interconnections assures reliability of service and adequacy of supply.

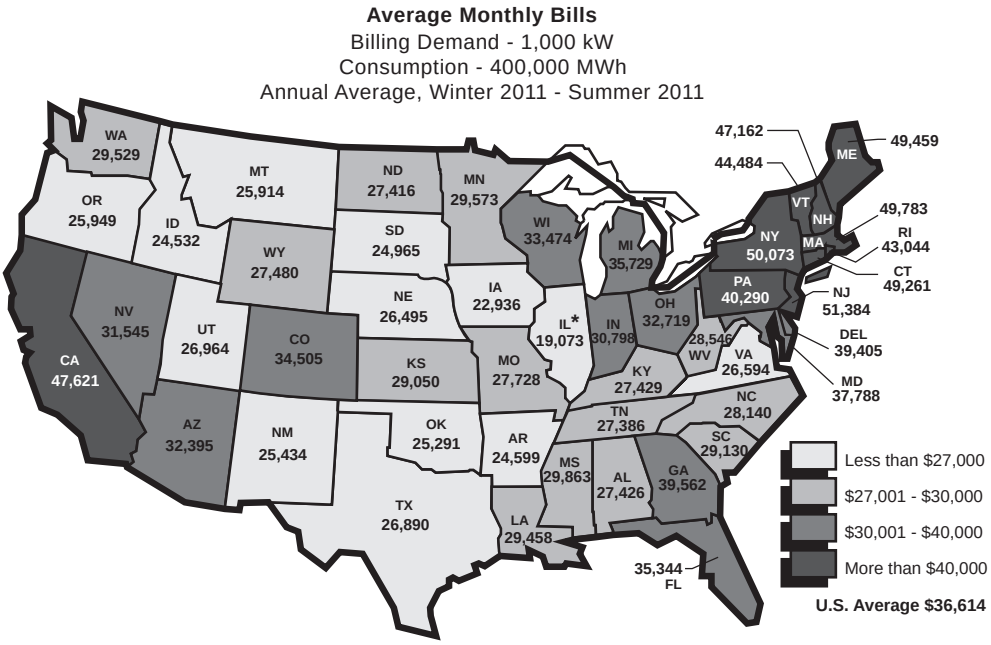
One of the reasons for Nebraska's low electric rates is its close proximity to the vast low-sulfur coal fields of eastern Wyoming. Nebraska is also the only state in the nation with electricity provided entirely by public power. Nebraska's two largest electric utilities, Nebraska Public Power District (NPPD) and Omaha Public Power District (OPPD), have under their control an efficient and dependable "mix" of generating systems to supply current and projected needs; the mix includes coal, nuclear, hydro, gas, oil, diesel, and wind sources.

Some major electric-generating facilities in Nebraska are:

- 1,300-megawatt NPPD coal-fired Gerald Gentleman Station near Sutherland, Unit No. 1 on-line in 1979 and Unit No. 2 on-line in 1982
- 1,330-megawatt OPPD coal-fired Nebraska City Station near Nebraska City, Unit No. 1 on-line in 1979 and Unit No. 2 online in 2009

Figure 4

Electric Costs for Industrial Service, Winter 2011–Summer 2011



* Value for Illinois is based on a very small sample of the state's industrial energy sales.

SOURCE:
Edison Electric Institute, "Typical Bills and Average Rates Report," January 1, 2011 and July 1, 2011. State averages are weighted using eight months of January 2011 data and four months of July 2011 data. Nebraska data represent the average for Omaha Public Power District, Lincoln Electric System, and Nebraska Public Power District using the same seasonal weighting.

- 800-megawatt NPPD Cooper Nuclear Station near Brownville, on-line in 1974
- 486-megawatt OPPD Fort Calhoun Nuclear Station, on-line in 1973

NPPD owns and operates the Ainsworth Wind Energy Facility, which has a capacity of 60 MWs. NPPD also purchases 40 MWs from the Elkhorn Ridge Wind Farm, located near Bloomfield; 61 MWs from the Laredo Ridge Wind Farm near Petersburg; and 3 MWs from the Springview II Wind Farm. NPPD has power purchase agreements in place for wind farms not yet currently in service including 20 MWs from the Crofton Hills Wind Farm to be constructed in northeast Nebraska, and 47 MWs from a Broken Bow Wind Farm in central Nebraska.

Nebraska utilities also operate 12 hydroelectric plants and receive a power allotment from the Western Area Power Administration (WAPA) hydroelectric facilities on the Missouri River. The utilities operate with a reserve capacity that protects users against voltage reductions and brownouts. Furthermore, the utilities are members of the Mid-Continent Area Power Pool (MAPP), the Southwest Power Pool (SPP), and the Western System Power Pool (WSPP).

Natural gas in Nebraska is also attractive to industry for service, supply, and price. A gas-producing state, Nebraska is close and well-connected by pipeline to the major gas fields of the central and southern plains. The state's average cost of industrial gas is less than both the regional and national averages.

The pipelines of two major companies, Northern Natural Gas and Kinder Morgan, provide an ample supply of natural gas to most areas of Nebraska. Depending on usage requirements, natural gas is offered both on a "firm" and "interruptible" basis.

Labor Quality

Any industry derives benefits from a productive and well-educated labor force. Nebraska's labor force has a strong work ethic and technical proficiency. The state was settled by individuals with the foresight and diligence to transform it into a world center of agricultural production. Their descendants maintain a work ethic and mechanical aptitude that carry over into the state's manufacturing sector. Contributing to Nebraska's high labor productivity are very low absenteeism and labor turnover rates. Furthermore, Nebraska employers pay among the lowest unemployment insurance and workers' compensation costs in the nation.

In the case of workers' compensation rates, Nebraska's rate of $1.97 per $100 of manufacturing payroll is 5.6 percent lower than the average for the other 15 alternative states included in this study (Figure 5A and Table 12). Nebraska's unemployment insurance cost provides a more significant cost advantage. The state's estimated unemployment insurance cost of $301 per worker is 37.4 percent less than the $481 average cost for the other states included in the comparison (Figure 5B).

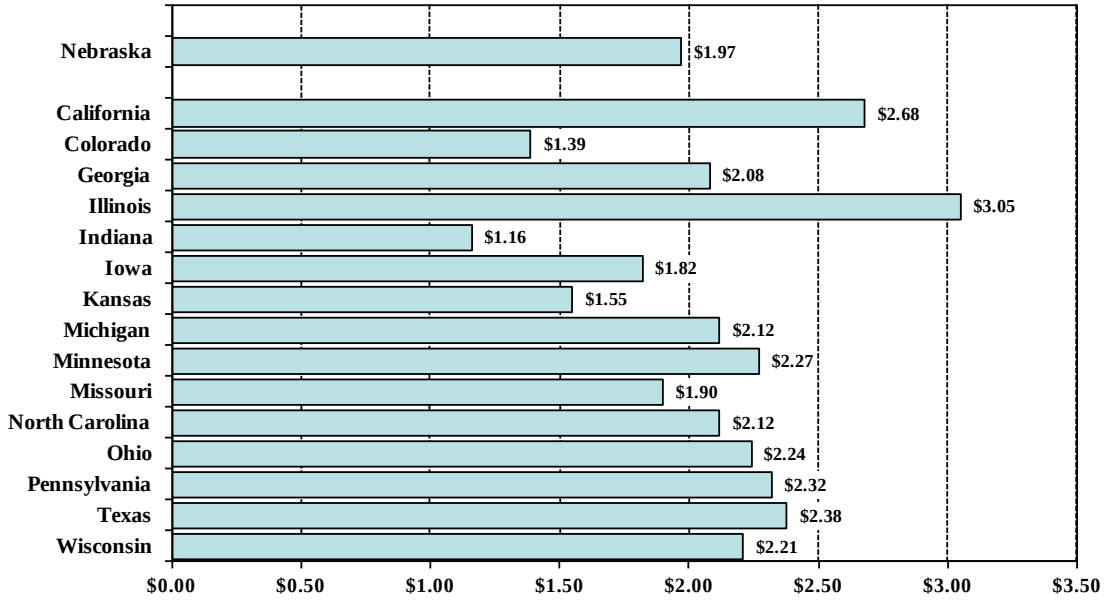
Nebraska's work force quality is also highly rated by the state's employers and by various national comparisons. In 2010, 90.4 percent of the state's population 25 years of age and older were high school graduates, compared to 85.6 percent nationally. In addition, the 2009–10 Nebraska high school graduation rate was 90.0 percent. One reason for the high graduation rate is the state's comparatively low student-teacher ratio—13.3:1 in 2009 compared to 15.3:1 for the nation. Finally, Nebraska students consistently score above the U.S. average on both standardized achievement tests and college entrance exams. In 2011 Nebraska students averaged 22.1 on the ACT college entrance test, compared to 21.1 nationally. Moreover, Nebraska's average composite ACT score was achieved with 76 percent of graduates taking the exam, compared to 49 percent of graduates nationwide.

Higher Education Resources and Research

As part of a growing and rapidly changing industry, plastics products manufacturers can benefit greatly from flexible state-of-the-art educational resources. The University of Nebraska, state colleges, and the community college network are important

Figure 5A

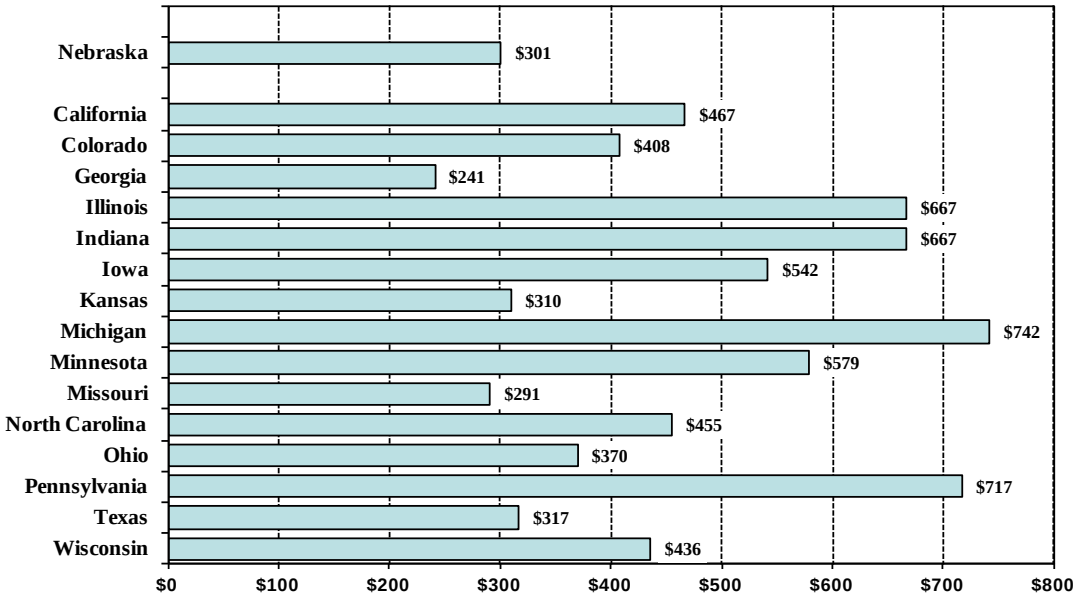
Workers' Compensation Rates,
Alternative Plant Locations



Source: Table 12.

Figure 5B

Per Worker Unemployment Insurance Costs, Alternative Plant Locations



Source: Table 12.

elements in providing resources to assist manufacturers in maintaining an educated and trained work force.

The University of Nebraska, is comprised of four campuses: The University of Nebraska-Lincoln, the University of Nebraska at Omaha, the University of Nebraska Medical Center, and the University of Nebraska at Kearney. It has the largest facilities among the state's 21 colleges and universities and offers advanced degrees in most professional fields. It is a major center for both basic and applied research and has a combined student enrollment of more than 45,000.

Founded in 1869, the University of Nebraska-Lincoln (UNL) is the state's land-grant university. Nebraska was the first university west of the Mississippi to establish a graduate college (in 1896). UNL boasts 22 Rhodes scholars and 2 Nobel laureates among its alumni.

Research

The University of Nebraska-Lincoln is among the top 35 public universities in the U.S. in spending on research and development. Research funding has more than doubled since 2002, and extensive new research facilities have been built on the Lincoln campus (UNL) and at the Medical Center. UNL has embarked on an exciting partnership called Nebraska Innovation Campus, a 249-acre private-public research and technology center adjacent to City Campus. The Innovation Campus is being developed with the support of 2015 Vision, a group of Lincoln, Nebraska, business leaders dedicated to strengthening research, education, and economic development through entrepreneurship and investment. The Innovation Campus will leverage UNL's research capacity by attracting private sector companies to locate near the university where they can work closely with university researchers, generating jobs and economic activity.

Engineering

The College of Engineering is situated on three campuses: Lincoln (City and East Campuses) and Omaha. Currently, the college has over 3,000 students enrolled and 300 permanent faculty and staff. Areas of engineering research and teaching at the University of Nebraska-Lincoln include Architectural Engineering, Agricultural Engineering, Biological Systems Engineering, Chemical and Biomolecular Engineering, Computer Engineering, Civil Engineering, Computer and Electronics Engineering, Construction Engineering, Construction Management, Electrical Engineering, and Mechanical and Materials Engineering.

Research at the College of Engineering is progressive and collaborative, supporting innovative research through two core facilities, housing six areas of research, and more than 16 research centers and laboratories. The two core facilities are supported by the Nebraska Research Initiative funded by the Nebraska Legislature to significantly enhance the scientific and research capabilities at UNL in technological areas with commercial potential. The Advanced Electro Optics Engineering Core Facility houses state-of-the-art lasers for producing a range of novel materials, thin films, and coatings that can be deposited with atomic precision on nanometer- to millimeter-sized areas/volumes. The Advanced Manufacturing Engineering Core Facility has the unique capability of synthesizing biological products, nanocomposites, and nanomachined electrical components. The programs residing in the research centers/ laboratories include a $10-million program for transportation research, an organization developing the technologies for the next generation of bridges and pavement, a trauma mechanics research initiative advancing the experimental and theoretical understanding of the mechanics of traumatic brain injury resulting from improvised explosive devices, and a facility developing vaccines against biological warfare agents and products that can be used as therapeutic countermeasures to treat people who have been exposed to biological agents.

A brief description of centers offering special expertise of interest to manufacturers of plastics products follows:

Engineering and Science Research Support Facility (ESRSF). The ESRSF is a dedicated, highly diverse technical facility with expertise in mechanical design, manufacturing, machining, fabrication, and technical services. The ESRSF technical staff combines high technical aptitude and background in hands-on instrument design, advanced machining, welding, fabrication, and materials testing. ESRSF will provide manufacturers with consulting services, prototyping, new part production runs, and other machining and construction services. Consulting services include: Workflow Management, Product/Process Design, Employee Technical Training, Machining Procedures, and Project Life Cycle Management.

- CNC & Conventional Machining, Welding, Fabrication, and Electroplating/Anodizing
- Foundry and Pattern Shop
- Computer Aided Design (CAD)
- Computer Aided Manufacturing (CAM)
- Materials Testing Equipment

Nebraska Center for Materials and Nanoscience (NCMN) is a multi-disciplinary organization with more than 75 faculty members from UNL and other University of Nebraska campuses. The concern is with atomic manipulation, properties affected by nanoscale dimensions, self-assembly, ordered nanoarrays, quantum dots and wires, nanoelectronics, quantum computing, nanomechanics, nanooptics, molecular design, nanoelectro-mechanical systems, nanobiological function, and life sciences.

There are eight central facilities to support the NCMN's mission: Crystallography, Electron Microscopy, Materials Preparation, Metallurgical and Mechanical Characterization, Scanning Probe Microscopy, X-Ray Materials Characterization, Nanofabrication, and Cryogenics. These facilities are available to all UNL faculty as well as companies in Nebraska and elsewhere.

Center for Nontraditional Manufacturing Research is the only research facility in the United States dedicated solely to the examination of nontraditional manufacturing methods. Projects involve both basic and applied research on numerous nontraditional manufacturing processes. The Center's mission is to target existing and future needs for software and hardware related to machinability, surface integrity, adaptive control, and expert systems in the processing of new high tech manufacturing materials and methods.

Center for Engineering Logistics and Distribution (CELDi) is a multi-university, multi-disciplinary National Science Foundation sponsored Industry/University Cooperative Research Center. Research endeavors are driven and sponsored by representatives from a broad range of member organizations, including manufacturing, maintenance, distribution, transportation, information technology, and consulting.

Through basic research, collaborative applied research with industry, technology transfer, and education, CELDi is a catalyst for developing the engineering logistics methodology necessary for logistics value chain optimization. Within CELDi, the activities include, but are not limited to:

- Value-adding processes that create time and place utility (transportation, material handling, and distribution)
- Value-sustaining processes that prolong useful life (maintenance, repair, and rework)
- Value-recovering processes that conserve scarce resources and enhance societal goodwill (returns, refurbishment, and recycling)

Wind Power Resources

University of Nebraska-Lincoln, College of Engineering Research. With vast open spaces and a steady year-round breeze, Nebraska has the potential to be a leader in wind energy and the third-largest wind producer in the country. The Electrical Engineering (EE) department at the University of Nebraska-Lincoln has several initiatives underway, in both research and education, which are moving the state toward reaching this potential.

Creating Energy-Plus Roadways. A team of UNL energy and transportation experts in civil and electrical engineering, led by EE Assistant Professor Dr. Wei Qiao, is developing a wind and solar hybrid power system—a combination virtually unheard of today for roadways. This system will generate, store, and distribute electricity for the transportation infrastructure, creating "energy-plus" roadways that produce more electricity than they consume. The long-term vision is to create local networks of hybrid power systems connected by smart controls, creating a "microgrid" at an intersection or across several blocks. These systems would communicate with each other and shift power where it is needed most, such as to a busy street during rush hour or during emergencies.

This hybrid system promises a clean, continuous source of power that reduces energy consumption and costs, protects against electrical blackouts, and feeds excess energy to the power grid to help offset transportation system expenses. A solar panel and a wind turbine collect energy that is converted into electricity to power a traffic signal, roadway sign, or light on which the system is installed. Researchers in the College of Engineering are determining how to plug the system into the power source of the existing infrastructure, creating a smart control system that senses how much power each source produces, depending on the weather, traffic volume, and other factors. On a cloudy day, the system would compensate by using more wind power or switching to the main power source. The research team is partnering with the city of Lincoln for prototype testing in 2012 and possible future implementation.

Developing the Next Generation Power Grid. Maintaining the reliability and security of the nation's complex power network requires a balance between power generation and use. Unlike today's primary energy sources of coal and oil, alternative power sources such as wind and solar are intermittent and harder to control. Research is underway in the College of Engineering to develop computer models and optimization and control tools to help create the next generation power grid. A smarter power grid will improve system stability, reliability, and efficiency. Also under investigation are ways to store excess energy for future use, which

would greatly improve the power grid's energy efficiency and reduce the risk of power failures.

Monitoring Turbine Conditions Remotely. Research is underway to develop remote wind turbine monitoring systems that will improve reliability and reduce maintenance costs. Today, workers must travel to remote areas and scale turbines to monitor their components. Existing monitoring technologies require additional sensors and expensive equipment that sometimes contribute to turbine system failures. The new technology uses signal-processing techniques to use a wind turbine's own electrical signals to remotely monitor the turbine's condition and quickly detect problems.

Educating Future Leaders in Wind Energy - Energy Sciences Minor. UNL has introduced an Energy Sciences minor designed for students of all majors. It is comprised of four introductory core courses that provide a comprehensive overview of energy in society, fundamental energy principles, the economics of energy, and environmental issues related to producing and using energy. The idea for the Energy Sciences minor grew from discussions among faculty in a variety of fields—among them engineering, plant sciences, economics, and climatology. They received funding from UNL's Nebraska Center for Energy Sciences Research. In addition to three core classes and a seminar course, a set of three to five upper division, discipline-oriented elective courses are available for each of four thematic areas: energy and natural resources, plant and animal bioenergy, energy engineering, and energy economics, policy, and human dimensions.

Wind for Schools. Dr. Jerry Hudgins, Chair of UNL's Department of Electrical Engineering and Interim Director of the Nebraska Center for Energy Sciences Research and the Nebraska Wind Applications Center, directs the state's Wind for Schools program. This project engages rural communities in alternative energy research by installing small-scale wind turbines at rural schools. It is part of the Department of Energy's National Renewable Energy Laboratory's Wind for Schools project. Having a fully operational wind turbine in the schoolyard gives a real-life meaning to the concept of wind energy. The program curriculum leads students to analyze the environmental and economic benefits of bringing wind energy to their communities and introduces basic science and engineering concepts.

Through the project nationwide, researchers from UNL and five other public universities are studying whether small distributed generating systems, like the ones being built at participating schools, are feasible power sources for farms, ranches, and small communities.

Along with research and development efforts at the University of Nebraska, Nebraska operates a state college system with campuses at Chadron, Peru, and Wayne. Undergraduate degrees are offered at these institutions in Industrial Technology and Industrial Management and teaching endorsements are offered in Industrial Technology Education and Trade and Industrial Education. A variety of private colleges and universities are also located in Nebraska including Creighton University in Omaha, Nebraska Wesleyan University in Lincoln, and others located throughout the state (see Figure 6A).

Another important facet of higher education in Nebraska is the statewide community college system that provides specialized training programs for new and expanding Nebraska industries. As indicated in Figure 6B, the state has six community college areas, which operate campuses in 12 cities across the state. The colleges offer a full curricula of occupational courses, which provide a steady flow of skilled graduates to Nebraska industries. As examples, Columbus, Grand Island, Hastings, and Milford Community College Campuses offer vocational/technical training in more than 50 different one- and two-year programs. Two-year, associate degree programs include Manufacturing Engineering Technology or Advanced Manufacturing Design Technology. Training is accomplished through the extensive use of hands-on activities and is centered around practical application of technical knowledge gained in lecture and laboratory sessions. Those interested in industrial plastics receive training in mold making and design, injection molding, compression molding, and die design.

Performance-Based Tax Incentives

In 2005 the Nebraska Legislature enacted the Nebraska Advantage Tax Incentive Program and amended the program in 2008 and 2010. The Nebraska Advantage package replaced and improved on Nebraska's existing tax incentive programs and created a business climate that makes Nebraska the preferred location for business start-ups and expansions. The Nebraska Advantage rewards businesses that invest in the state and hire Nebraskans. In this progressive, pro-business climate, corporate income and sales taxes are reduced or virtually eliminated. Further information about the Nebraska Advantage is summarized in this study and is available at **www.NebraskaAdvantage.biz**.

The legislative components of the Nebraska Advantage package include:

Nebraska Advantage Act (LB 312)

- Expanded incentives for six "tiers" of investment and/or job creation
- Small business advantage
- Research and development advantage
- Microenterprise tax credit advantage
- Rural development advantage
- State and local sales tax exemptions of manufacturing machinery, equipment, and related services

Qualified businesses for Tier One include scientific testing, research and development, manufacturing, and targeted export services. Qualified businesses for Tiers Two, Three, Four, and Five include the above plus data processing, telecommunications, insurance, financial services, distribution, storage, transportation, and headquarters (administrative). All businesses other than retail qualify for Super Tier Six. Retail sales of tangible personal property to specified markets can also qualify under tiers Two through Six.

Nebraska Agricultural Innovation Advantage (LB 90)

- Agriculture opportunities and value-added partnership act
- Building entrepreneurial communities act
- Ethanol production incentive cash fund enhancement

Other components in the Nebraska Advantage package are:

Nebraska Customized Job Training Advantage - Provides a flexible job training program with grants from $500 to $4,000 per job. Additional funds may be available for new jobs created in rural or high poverty areas. Companies can design their own training or a statewide training team can assist with training assessments, training plans, curriculum development, and instruction.

Nebraska Research and Development Advantage - Offers a refundable tax credit for research and development activities undertaken by a business entity. The credit is equal to 15 percent of federal credit allowed under Section 41 of the Internal Revenue Code of 1986. The credit is increased to 35 percent of the federal credit allowed under Section 41 if the business firm makes expenditures on the campus of a Nebraska college or university or a facility owned by a college or university in Nebraska. An important feature—businesses with little or no income may take advantage of the tax credit by receiving a sales tax refund or a refundable income tax credit.

Nebraska Microenterprise Tax Credit Advantage - Provides a 20 percent refundable investment tax credit to micro businesses on new investment in targeted communities. Applicants may qualify for a maximum $10,000 throughout the life of the program. The credit is geared to companies with five or fewer employees, including start-ups. Credits are approved through an application process with the Nebraska Department of Revenue and evaluated on expected local economic impacts. The credits are earned on new expenditures for wages, buildings, certain expenses, and non-vehicle depreciable personal property.

Additional Tax Savings:

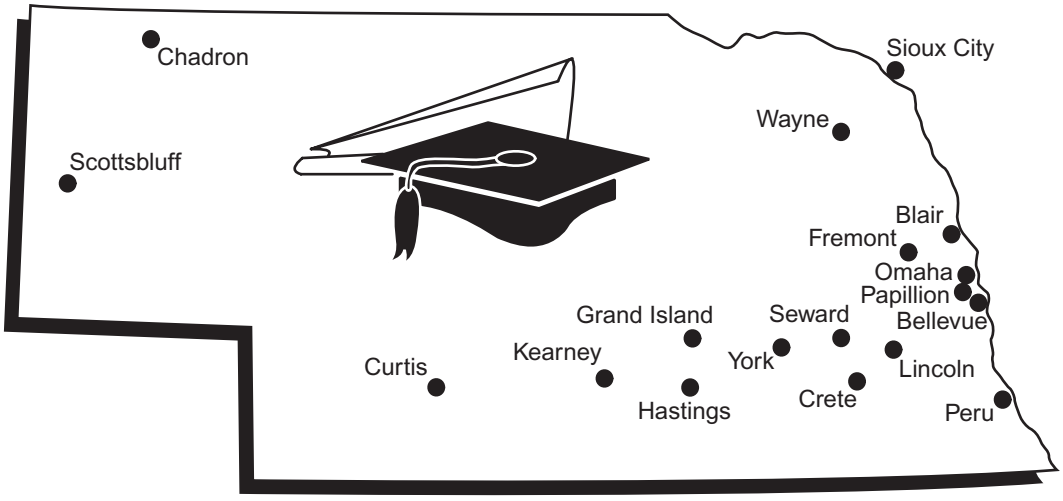
- Sales Tax Exemption On:
  - Manufacturing equipment
  - Manufacturing or processing raw materials
  - Common carrier vehicles
  - Utilities used in manufacturing
- No Tangibles Tax

- No Inventory Tax
- Sales Tax Refund on Pollution Control Equipment
- 100% Tax Exemption on Certain Personal Property

In a tax policy incentive, Nebraska determines the taxable income attributable to Nebraska operations using a single factor, or "sales only" formula. This method for determining corporate income tax allocation provides a significant advantage to multi-state unitary firms that sell products or services outside Nebraska. Nebraska also provides a capital gains exemption. State residents may elect, on a one-time basis, to subtract from their income tax liability the gain from the sale of capital stock of a corporation acquired during Nebraska-based employment with the corporation.

Figure 6A

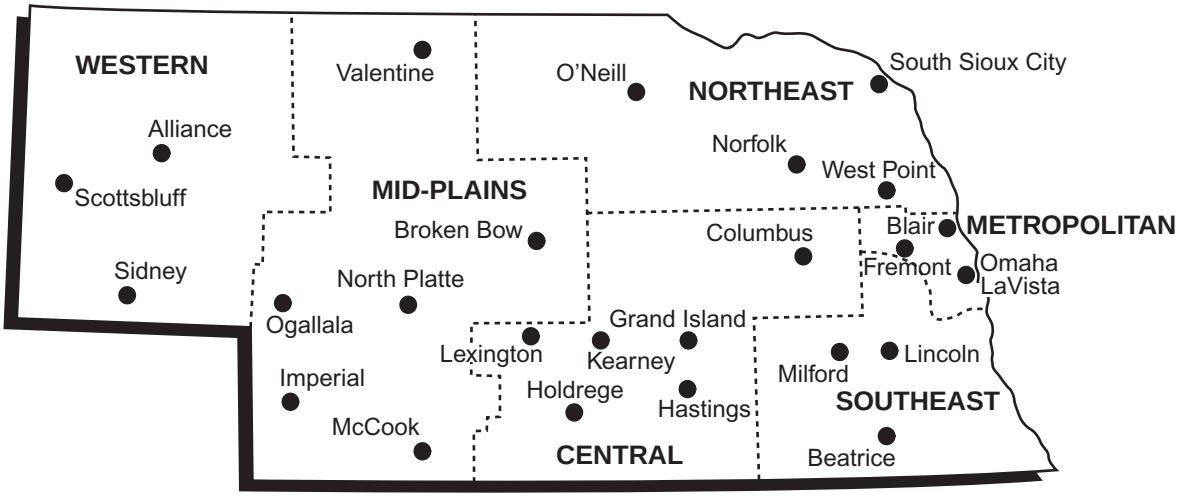
Location of Nebraska Area Colleges and Universities



Source: Nebraska Coordinating Commission for Postsecondary Education.

Figure 6B

Community Colleges in Nebraska



Source: Nebraska Community College System.

New Economic Development Initiatives

Nebraska has recently adopted several new legislative initiatives and programs designed to build Nebraska's innovation economy and foster new high-quality job opportunities. Additional information on all these initiatives can be viewed at **www.neded.org**.

Talent & Innovation Initiative (TI2). The four-part TI2 was developed to enhance momentum in Nebraska's fastest growing industries, maintain Nebraska's world class workforce, and leverage private sector innovation.

Nebraska Internship Program (InternNE), LB386, is a partnership with Nebraska businesses to create new, paid internship opportunities for college and university students. The program provides matching grants to create new internship opportunities and are for 500 to 750 juniors and seniors studying at four-year institutions or students in their second year at a Nebraska community college.

Grant awards will be made on a first-come, first-serve basis to companies creating new internship opportunities, which are capped at 10 per business. Internships will pay at least minimum wage and range from 12-week to year-long programs. Grant amounts are lesser of 40 percent of reimbursable costs or up to $3,500 in non-distressed areas, and lesser of 60 percent of reimbursable costs or up to $5,000 in distressed areas.

Business Innovation Act, LB 387, is intended to help businesses develop new technologies and leverage innovation to enhance quality job opportunities in the state. It will provide competitive matching grants for research, development, and innovation and will also help expand small business and entrepreneurial outreach efforts. Eligible grant activities may include: prototype development, product commercialization, applied research in the state, and support for small business and microenterprise lending.

Site & Building Development Fund, LB 388, makes state resources available to increase industrial site and building availability and support site ready projects. State funding will be focused initially on land and infrastructure development and building rehabilitation, with 40 percent of funding available to non-metro areas. Communities will provide matching funds. This program also makes funding available to assist with demolition of dilapidated residential and industrial buildings and offers direct support to communities that lose a major employer.

Angel Investment Tax Credit, LB 389, encourages investment in high-tech startup enterprises in Nebraska by providing a 35–40 percent refundable state income tax credits to qualified Nebraska investors investing in qualified early-stage companies. Capped at $3,000,000 annually, the program requires a minimum investment of $25,000 for individuals and $50,000 for investment funds. Eligible small businesses must have fewer than 25 employees, with the majority based in the state.

Other Development Assistance Programs

Building on traditional advantages, Nebraska offers additional development assistance programs. Among those programs are the following:

Tax Increment Financing - An additional incentive program of note is Nebraska's Tax Increment Financing (TIF). TIF is a method of financing the public improvements associated with a private development project in a blighted area by using the projected increase in property tax revenue that will result from the private development.

Community Development Block Grants (CDBG) - Eligible businesses may be able to qualify for CDBG through local governments so they may make improvements to the public infrastructure serving the project site. Performance based loans of up to $1,000,000 may be awarded to qualifying companies creating new investments and jobs. Fifty-one percent of the new jobs must be held by or made available to low- or moderate-income persons. Other federal requirements apply. The program is administered by the Nebraska Department of Economic Development. More details are available at **www.neded.org**.

Industrial Revenue Bonds - All Nebraska counties and municipalities, as well as the Nebraska Development Finance Fund, are authorized to issue industrial revenue bonds to finance land, buildings, and equipment for industrial projects. No general election is required for an issue.

Other Financing Assistance - Supplementing traditional sources, financing assistance is also available through the Nebraska Investment Finance Authority, the Business Development Corporation of Nebraska, and the local development corporations. The Nebraska Department of Economic Development also administers development finance services, with staff helping assemble government financing with conventional financing to put together the best comprehensive package.

Nebraska Process Loan Fund - Focuses on making loans to qualifying small businesses. The minimum loan is $50,000, with a maximum of $2,000,000. Advantages with this loan are interest rates ranging from 0% to 4%, payment deferrals, and the ability to support loans that lack sufficient collateral to qualify the loan(s) from a private lender.

It is important to recognize the Nebraska Advantage package replaces and significantly enhances Nebraska's previous performance based tax incentive programs. Those earlier incentives, the first of which was passed by the Nebraska Legislature in 1987, had a profound effect in stimulating business investment, expansion, and job creation. Nebraska's previous tax incentive programs contributed to substantial investment and job creation, including total investment of more than $23.5 billion and 121,000 jobs.

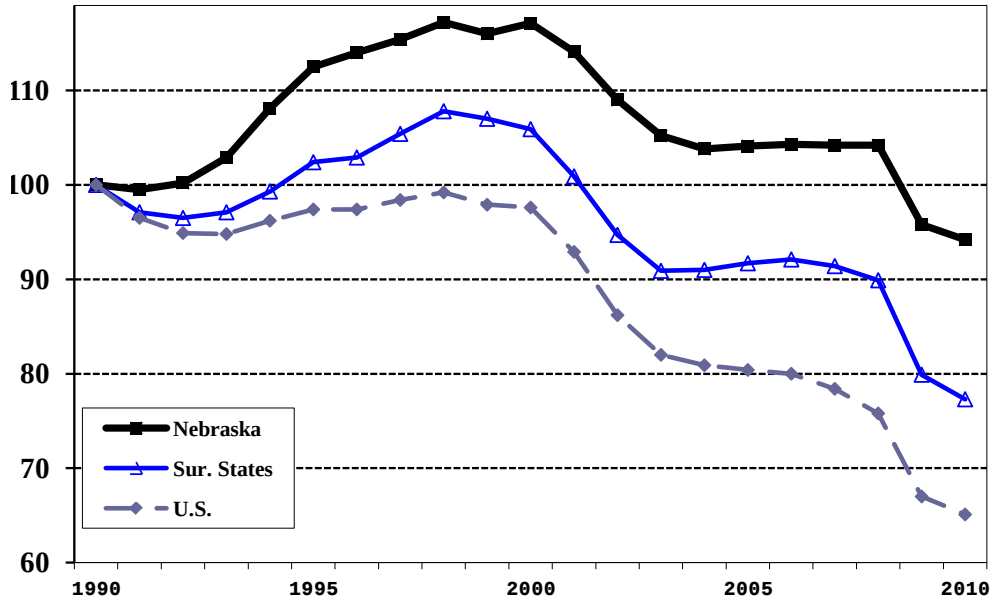
The combination of many factors, including Nebraska's attractive business climate, tax incentives, labor productivity, and effective job training programs as well as other positive attributes, has resulted in Nebraska's manufacturing sector significantly outperforming both that of the surrounding states and the U.S. as a whole. Manufacturing employment in Nebraska grew by 17.1 percent between 1990 and 2000. As the U.S. economy experienced two major recessions between 2000 and 2010, manufacturing employment in Nebraska declined but outperformed the Plains Region and the nation (Figure 7). These data suggest that companies with Nebraska manufacturing plants benefit from location and other competitive advantages associated with doing business in Nebraska.

Quality of Life

For a potential newcomer to Nebraska, the state's livability is obviously also a consideration. Nebraska typically ranks high in quality of life studies—and at or slightly above average in cost of living measures. The state's landscape is clean and spacious, both in urban and rural areas. Residents blend Midwestern values with Western enthusiasm for growth and change. This helps

Figure 7

Manufacturing Employment, Nebraska, Surrounding States, and the U.S., 1990–2010, 1990=100



Surrounding states include data for states contiguous to Nebraska, as a group, including Colorado, Iowa, Kansas, Missouri, South Dakota, and Wyoming.

Source: Bureau of Labor Statistics, **www.bls.gov**.

Table 7

Cost of Living in Nebraska, Compared to the National Average
April, 2012

	Items Index [a]	Consum-ables	Transpor-tation [b]	Health Services	Monthly Rent [c]	Home Value [c]	Utilities	Payroll Taxes
U.S. Average	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Nebraska	101.0	92.6	104.8	91.9	95.8	97.1	102.3	104.5
Omaha, NE	98.4	93.7	99.4	92.6	126.4	88.4	92.3	105.1
Lincoln, NE	105.4	94.6	105.6	92.8	103.3	111.6	103.8	102.7
Nonmetro NE [d]	99.9	92.2	105.6	91.7	88.4	93.0	103.8	105.1

[a] Cost of living values computed for a family of three with an annual income of $50,000.
[b] Transportation costs assumes ownership of two cars valued at $14,312 which are driven a total of 20,000 miles annually.
[c] Assumes a house of 1,613 square feet for both rental assumption and home value.
[d] Nonmetro Nebraska data represent the average of 14 Nebraska cities outside of the Omaha and Lincoln metropolitan areas. These cities include Beatrice, Columbus, Dakota City, Fremont, Grand Island, Hastings, Kearney, McCook, Norfolk, North Platte, O'Neill, Scottsbluff, South Sioux City, and Valentine, Nebraska.

Source: Index values computed from cost-of-living data obtained from Economic Research Institute (ERI), Relocation Assessor Database as of April 1, 2012.

create a high degree of citizen participation in both neighborhood and community wide activities.

The cost of living in Nebraska is consistently at or below the national average. Data presented in Table 7 indicate Nebraska residents benefit from below average costs for consumables, health services, and housing.

II. Labor and Energy Cost Analysis

As shown in the previous discussion, Nebraska offers a wide range of locational advantages for manufacturers of plastics products. In this section of the study, labor and energy production cost factors that have geographic variability are analyzed. Such analysis permits the identification of the plant site providing the best advantage on these important input factors.

In the analysis of geographically variable labor and energy costs, the following procedures are used:

1) Selection of alternative plant locations for evaluation of the geographically variable labor and energy costs.
2) Definition of a model manufacturing plant for identifying labor and energy inputs and costs.
3) Evaluation of labor-related costs associated with each alternative plant location.
4) Evaluation of energy costs for each alternative plant location.

Alternative Plant Locations

Sixteen plant locations were selected for comparison in this analysis. The plant locations essentially were in two groups of states: 1) states that currently have the largest manufacture of plastics products and 2) neighboring and nearby states to Nebraska that typically compete for industrial location projects. The first group of states includes California, Georgia, Illinois, Indiana, Michigan, North Carolina, Ohio, Pennsylvania, Texas, and Wisconsin. The second group of states include Nebraska, Colorado, Iowa, Kansas, Minnesota, and Missouri. Combined, these two groups of states account for 65.8 percent of the value of shipments by manufacturers in the plastics product manufacturing industry (see Table 8).

The Model Plant

To facilitate the analysis of the comparative labor and energy costs for the alternative states, it is useful to define a model plant for which the geographically variable costs can be quantified. The model plant is assumed to manufacture a product representative of the plastics product industry as a whole. To specify the relevant labor and energy costs, information was obtained

Table 8

Alternative Locations for a Model Plant for the Plastics Product Manufacturing Industry (NAICS 3261)

State	Percent of Value of Shipments [(a)]
Nebraska	**0.5**
California	7.7
Colorado	0.5
Georgia	3.6
Illinois	7.4
Indiana	4.8
Iowa	1.5
Kansas	1.5
Michigan	5.3
Minnesota	1.7
Missouri	1.8
North Carolina	3.9
Ohio	7.7
Pennsylvania	5.8
Texas	7.5
Wisconsin	4.5
Total Selected States	**65.8***

[(a)]Percent of the 2010 U.S. total value of shipments by manufacture for establishments in NAICS 3261

*Does not sum to total due to rounding.

Source: U.S. Bureau of the Census, *2010 Annual Survey of Manufactures*.

from the *2007 Census of Manufacturing*, and the *2009 Annual Survey of Manufactures*.

Table 9 presents industry characteristics used in developing the model plant, which is assumed to employ 50 production workers. Estimated production worker hours total 104,000 annually or 2,080 hours per worker. Value added by manufacture is estimated to be $8,680,400 and the total annual output (value of shipments) is estimated to be $18,000,500. Energy inputs are estimated at 29,540 million BTUs, with all energy inputs supplied by electricity and natural gas.

Energy Used in the Model Plant

The assumption that the model plant is representative of the industry as a whole leads to the assumption that energy used in the plant also should be characteristic of industry use patterns. Part A of Table 10 presents data estimating energy use for the industry in 2010. The estimated

Table 9

Characteristics of a Model Plant for the Plastics Product Manufacturing Industry (NAICS 3261)

	Total Model Plant	Per Production Worker
Production Workers	50	- - -
Value Added [dollars] [(a)]	8,680,407	173,608
Total Output [dollars] [(b)]	18,000,500	360,010
Energy Inputs [million BTUs] [(c)]	29,540	591

(a) Estimated value added applies the 2010 value added per production worker for the Plastics Product Manufacturing Industry (NAICS 3261) to the model plant (see Table 4).

(b) Estimated value of shipments derived by applying the 2010 value of shipments per production worker to the model plant (see Table 4).

(c) Estimated by applying the 2010 ratio of energy inputs per production worker to the model plant (see Table 10).

Source: Calculated from data presented in Tables 4 and 10.

energy use for the model plant was derived using the ratio of energy inputs to industry value added. It was further assumed all energy inputs for the model plant are derived from electricity and natural gas.

Part B of Table 10 indicates the model plant, employing 50 production workers, will have annual energy inputs of 29,540.4 million BTUs. Electric energy inputs are estimated to be 17,399.3 million BTUs (5,099,441 kWhs), or 58.9 percent of the total energy inputs, while natural gas inputs are estimated at 12,141.1 million BTUs.

Table 10

Energy Use in Plastics Products Manufacturing Establishments

	Trillion BTUs	Percent
Purchased Fuels and Electric Energy	248.4	100.0
Purchased Electric Energy	146.3	58.9
Purchased Fuels	102.1	41.1

Source: Energy use estimated from data from the U.S. Bureau of the Census, *Annual Survey of Manufactures; 2010 and* U.S. Energy Information Administration, 2*006 Manufacturing Energy Consumption Survey.*

Part B

Energy Inputs for the Plastics Product Manufacturing Industry Group (NAICS 3261) Model Plant

	Million BTUs	Percent
Purchased Electricity	17,399.3 (5,099,441 kWhs)	58.9
Natural Gas	12,141.1	41.1
Total Energy Inputs	29,540.4	100.0

Source: Calculated from data in Table 9 and Part A of this table.

Labor-Related Costs

Labor costs in the plastics product industry are affected by several factors: wage rates, productivity of workers, fringe benefits, unemployment insurance, and workers' compensation costs. Table 11 includes data on wage rates for the states identified as alternative plant locations.

An analysis of state wage levels indicates Nebraska's plastics products manufacturing production workers have hourly wage rates significantly below the average for the alternative plant sites. For example, 2010 hourly wage rates for Nebraska production workers ($14.33) are 15.0 percent below the average wage rates for the other 15 states included as alternative plant locations.

Table 11

Average Annual and Hourly Earnings of Plastics Product Manufacturing Industry (NAICS 3261) Workers Alternate Plant Locations, 2010

Plant Location	Average Annual Wages	Average Hourly Earnings
Nebraska	**$29,806**	**$14.33**
California	33,010	15.87
Colorado	37,045	17.81
Georgia	33,987	16.34
Illinois	35,984	17.30
Indiana	33,946	16.32
Iowa	34,216	16.45
Kansas	32,282	15.52
Michigan	33,426	16.07
Minnesota	36,899	17.74
Missouri	35,298	16.97
North Carolina	35,256	16.95
Ohio	35,568	17.10
Pennsylvania	35,714	17.17
Texas	34,237	16.46
Wisconsin	38,938	18.72

Source: U.S. Bureau of the Census, *Annual Survey of Manufactures,* 2010.

Other associated costs contributing to the total labor-related wage bill are shown in Table 12. These costs include rates for unemployment insurance and workers' compensation.

The Nebraska costs for unemployment insurance and workers' compensation are significantly less than the other states. In the case of unemployment insurance contributions, the average cost per employee for the 15 alternative states is $481.00 or 59.8 percent higher than the Nebraska cost of $301.00. Insurance rates for workers' compensation average $2.09 per $100 of payroll for the 15 alternative states, 5.9 percent more than Nebraska's rate of $1.97.

Table 12

Other Labor Costs, Alternate Plant Locations

Plant Locations	Workers' Compensation Rates [a]	Unemployment Insurance Factors Per Worker Costs [b]
	($)	($)
Nebraska	**1.97**	**301.00**
California	2.68	467.00
Colorado	1.39	408.00
Georgia	2.08	241.00
Illinois	3.05	667.00
Indiana	1.16	667.00
Iowa	1.82	542.00
Kansas	1.55	310.00
Michigan	2.12	742.00
Minnesota	2.27	579.00
Missouri	1.90	291.00
North Carolina	2.12	455.00
Ohio	2.24	370.00
Pennsylvania	2.32	717.00
Texas	2.38	317.00
Wisconsin	2.21	436.00

Sources:

[a] Rates for all manufacturing classifications from: Oregon Department of Consumer & Business Services, *Oregon Worker's Compensation Premium Rate Rankings Calendar Year 2010*, February 2011.

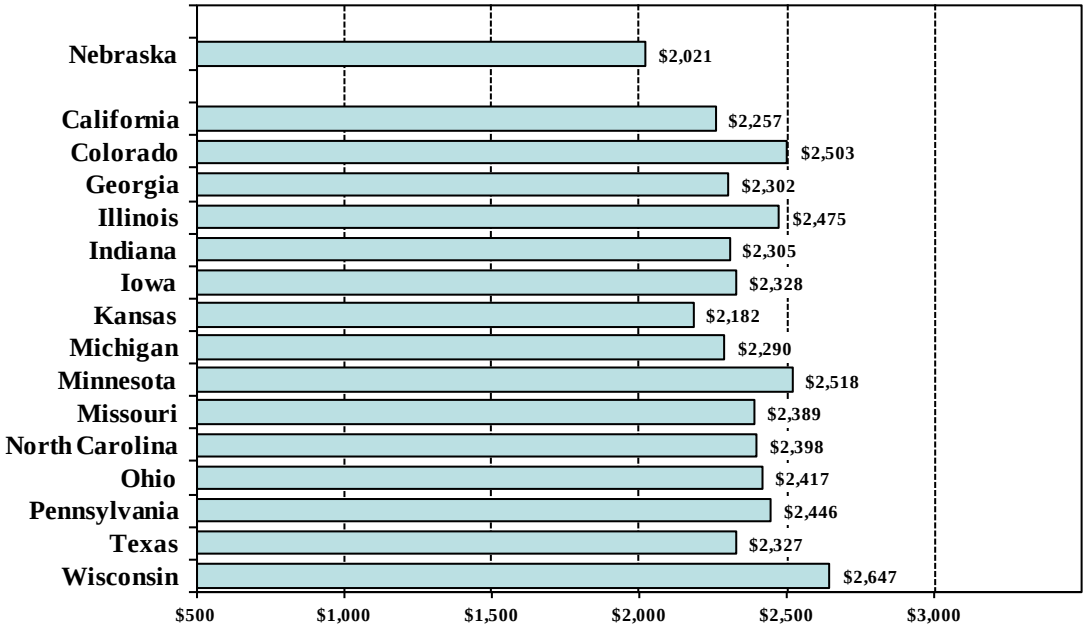
[b] Unemployment factors from: U.S. Department of Labor, Office of Workforce Security, *Significant Measures of State Unemployment Insurance Tax Systems*, 2011.

Estimated annual labor-related costs for operating the model plant producing plastics products are presented in Figure 8 and Table 13. These labor-related costs include direct wages paid to production workers and estimates of other labor-related costs, including costs of workers' compensation and unemployment insurance, social security, and other fringe benefits.

If located in Nebraska, the model plant has a significant labor cost advantage over the alternative locations. The Nebraska labor cost advantage reaches as high as $626,097 in annual savings when compared to Wisconsin. When compared to the average labor costs for the 15 alternative locations, Nebraska's annual labor cost advantage is $364,297 or 15.3 percent lower.

Figure 8

Estimated Total Labor Costs* for the Plastics Product Industry, Alternative Plant Locations



(Labor Costs in Thousands of Dollars)

*Calculated labor costs include wages, workers' compensation insurance, unemployment insurance, social security, and fringe benefits.

Source: See Table 13.

Table 13

Total Annual Labor-Related Costs for a Model Plant
for the Plastics Product Manufacturing Industry (NAICS 3261)

Plant Location	Hourly Wage Rate	Number of Production Workers	Total Payroll	Workers' Compensation Insurance	Unemployment Insurance	Social Security [a]	Fringe Benefits[b]	Total Labor Costs	Cost Difference Other States (-) Nebraska	Cost Relative Other States (/) Nebraska
	($)	($)	($)	($)	($)	($)	($)	($)	($)	(%)
Nebraska	**14.33**	**50**	**1,490,300**	**29,359**	**15,050**	**114,008**	**372,575**	**2,021,292**	**$0**	**100.0**
California	15.87	50	1,650,500	44,233	23,350	126,263	412,625	2,256,971	235,679	111.7
Colorado	17.81	50	1,852,200	25,746	20,400	141,693	463,050	2,503,089	481,797	123.8
Georgia	16.34	50	1,699,400	35,348	12,050	130,004	424,850	2,301,652	280,360	113.9
Illinois	17.30	50	1,799,200	54,876	33,350	137,639	449,800	2,474,865	453,573	122.4
Indiana	16.32	50	1,697,300	19,689	33,350	129,843	424,325	2,304,507	283,215	114.0
Iowa	16.45	50	1,710,800	31,137	27,100	130,876	427,700	2,327,613	306,321	115.2
Kansas	15.52	50	1,614,100	25,019	15,500	123,479	403,525	2,181,623	160,331	107.9
Michigan	16.07	50	1,671,300	35,432	37,100	127,854	417,825	2,289,511	268,219	113.3
Minnesota	17.74	50	1,845,000	41,882	28,950	141,143	461,250	2,518,225	496,933	124.6
Missouri	16.97	50	1,764,900	33,533	14,550	135,015	441,225	2,389,223	367,931	118.2
North Carolina	16.95	50	1,762,800	37,371	22,750	134,854	440,700	2,398,475	377,183	118.7
Ohio	17.10	50	1,778,400	39,836	18,500	136,048	444,600	2,417,384	396,092	119.6
Pennsylvania	17.17	50	1,785,700	41,428	35,850	136,606	446,425	2,446,009	424,717	121.0
Texas	16.46	50	1,711,800	40,741	15,850	130,953	427,950	2,327,294	306,002	115.1
Wisconsin	18.72	50	1,946,900	43,026	21,800	148,938	486,725	2,647,389	626,097	131.0

[a] Employer Social Security costs are 7.65 percent of payroll (wages).

[b] Fringe benefit costs are assumed to be 25 percent of payroll.

Source: Compiled from data in Tables 11 and 12.

Energy Costs

The availability and cost of energy are increasingly important factors in the industrial location process. Rates for industrial electricity and natural gas for the alternative plant locations are presented in Table 14. For both energy sources, Nebraska's rates are substantially less than the alternative states. The average electric rate for a 1,000 kW billing demand with monthly usage of 400,000 kWhs for the 15 alternative plant sites is $0.0797 per kWh or 20.4 percent more than the Nebraska rate of $0.0662.

In the case of industrial rates for natural gas, the average for the 15 other states is 17.4 percent more than the Nebraska rate of $5.70 per million BTUs.

Table 14

Industrial Rates for Electric Energy and Natural Gas
Alternative Plant Locations

Plant Locations	Average Cost of Industrial Natural Gas, 2010 [a]	Cost of 1,000 kW Billing Demand With 400,000 kWh, 2011 [b]	
	($/MM BTU)	($/Month)	($/kWh)
Nebraska	**5.70**	**26,495**	**0.0662**
California	6.84	47,621	0.1191
Colorado	5.69	34,505	0.0863
Georgia	6.09	39,562	0.0989
Illinois	6.94	19,073	0.0477
Indiana	5.50	30,798	0.0770
Iowa	5.94	22,936	0.0573
Kansas	5.36	29,050	0.0726
Michigan	9.01	35,729	0.0893
Minnesota	5.43	29,573	0.0739
Missouri	8.47	27,728	0.0693
North Carolina	8.02	28,140	0.0704
Ohio	7.21	32,719	0.0818
Pennsylvania	8.01	40,290	0.1007
Texas	4.49	26,890	0.0672
Wisconsin	7.36	33,474	0.0837

Sources:

[a] Natural Gas: U.S. Energy Information Agency, *Natural Gas Industrial Price*, 2010, **www.eia.gov/dnav/ng/ng_pri_sum_a_epg0_pin_dmcf_a.htm**. Values converted from price per MCF to per mmBTUs by dividing prices by 1.027.

[b] Electric: Edison Electric Institute, *Typical Residential, Commercial, and Industrial Bills*, January 1, 2011 and July 1, 2011. State average weighted using eight months of January 2011 data and four months of July 2011 data. Nebraska data represent average for Nebraska Public Power District, Omaha Public Power District, and Lincoln Electric System using the same seasonal weighting.

Table 15 and Figure 9 provide an analysis of the energy costs for the operation of the model plant. The total energy costs for the alterative locations include the cost for the assumed level of electrical energy and natural gas inputs for the operation of the plant.

Nebraska provides a significant energy cost savings compared to the alternative plant locations. When considering the California location, energy costs for the model plant are more than one and a half times (169.7 percent) the Nebraska energy costs. When compared to the average total energy costs for the 15 alternative states, Nebraska energy costs are 16.6 percent lower, translating into an average annual savings of $80,768.

Table 15

Annual Energy Costs for a Model Plant for the Plastics Product Manufacturing Industry (NAICS 3261)

Plant Locations	Electricity Rate[a]	Electricity Cost	Natural Gas Rate[b]	Natural Gas Cost	Total Energy Cost	Cost Difference Other States (-) Nebraska	Cost Relative Other States (/) Nebraska
Nebraska	**$0.0662**	**$337,583**	**$5.70**	**$69,204**	**$406,787**	**$0**	**100.0**
California	0.1191	607,343	6.84	83,045	690,388	283,601	169.7
Colorado	0.0863	440,082	5.69	69,083	509,165	102,378	125.2
Georgia	0.0989	504,335	6.09	73,939	578,274	171,487	142.2
Illinois	0.0477	243,243	6.94	84,259	327,502	-79,285	80.5
Indiana	0.0770	392,657	5.50	66,776	459,433	52,646	112.9
Iowa	0.0573	292,198	5.94	72,118	364,316	-42,471	89.6
Kansas	0.0726	370,219	5.36	65,076	435,295	28,508	107.0
Michigan	0.0893	455,380	9.01	109,391	564,771	157,984	138.8
Minnesota	0.0739	376,849	5.43	65,926	442,775	35,988	108.8
Missouri	0.0693	353,391	8.47	102,835	456,226	49,439	112.2
North Carolina	0.0704	359,001	8.02	97,372	456,373	49,586	112.2
Ohio	0.0818	417,134	7.21	87,537	504,671	97,884	124.1
Pennsylvania	0.1007	513,514	8.01	97,250	610,764	203,977	150.1
Texas	0.0672	342,682	4.49	54,514	397,196	-9,591	97.6
Wisconsin	0.0837	426,823	7.36	89,358	516,181	109,394	126.9

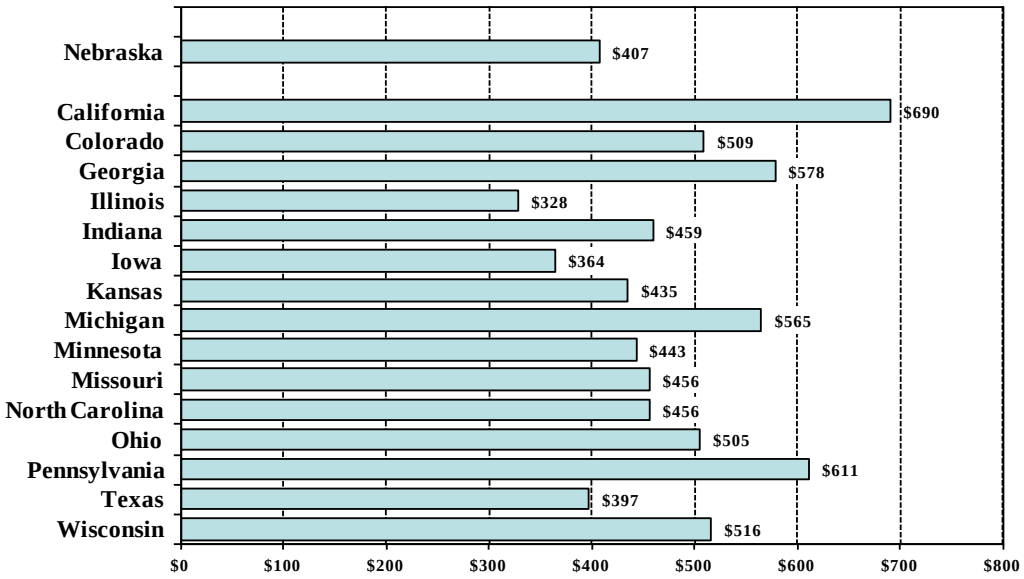
[a] Electric rate is cost per kWh using the average per kWh cost for 1,000 kW monthly demand with 400,000 kWh of consumption. The model plant is assumed to use 3,512,081 kWh annually.

[b] Natural Gas rate is per million BTUs. The model plant is assumed to use 42,405.9 million BTUs annually.

Source: Calculated from data presented in Tables 10 and 14.

Figure 9

Estimated Total Energy Costs* for the Plastics Product Industry, Alternative Plant Locations



(Energy Costs in Thousands of Dollars)

* Calculated energy costs include electricity and natural gas costs.

Source: See Table 15.

Labor and Energy Cost Summary

Combining the labor and energy cost findings, the results of the model plant analysis are summarized in Table 16. As the table shows, the comparative annual cost advantage associated with a Nebraska location ranges from a low of $188,839, compared to the Kansas plant site, to a high of $735,491 when compared to the Wisconsin site. When considering the average labor and energy costs for the 15 alternative states, the cost advantage of the Nebraska location is $445,065 annually, or 15.5 percent less than the average costs for the other 15 plant sites considered.

Conversely, the average labor and energy costs for the alternative states are 18.3 percent more than the costs associated with a Nebraska location. Inescapable from these results is the conclusion that, in terms of major labor and energy input costs, Nebraska manufacturers of plastics products have a clear competitive advantage over manufacturing establishments in the industry not so fortunately located.

Table 16

Summary of Labor and Energy Costs for a Model Plant for the Plastics Product Manufacturing Industry (NAICS 3261)

Plant Locations	Total Labor Cost	Total Energy Cost	Total Labor and Energy Cost	Cost Difference Other States (-) Nebraska	Cost Relative Other States (/) Nebraska
	($)	($)	($)	($)	(%)
Nebraska	**2,021,292**	**406,787**	**2,428,079**	**0**	**100.0**
California	2,256,971	690,388	2,947,359	519,280	121.4
Colorado	2,503,089	509,165	3,012,254	584,175	124.1
Georgia	2,301,652	578,274	2,879,926	451,847	118.6
Illinois	2,474,865	327,502	2,802,367	374,288	115.4
Indiana	2,304,507	459,433	2,763,940	335,861	113.8
Iowa	2,327,613	364,316	2,691,929	263,850	110.9
Kansas	2,181,623	435,295	2,616,918	188,839	107.8
Michigan	2,289,511	564,771	2,854,282	426,203	117.6
Minnesota	2,518,225	442,775	2,961,000	532,921	121.9
Missouri	2,389,223	456,226	2,845,449	417,370	117.2
North Carolina	2,398,475	456,373	2,854,848	426,769	117.6
Ohio	2,417,384	504,671	2,922,055	493,976	120.3
Pennsylvania	2,446,009	610,764	3,056,773	628,694	125.9
Texas	2,327,294	397,196	2,724,490	296,411	112.2
Wisconsin	2,647,389	516,181	3,163,570	735,491	130.3

Source: Calculated from data presented in Tables 13 and 15.

CONCLUSIONS

This study concludes the plastics product manufacturing industry is desirable for Nebraska and a Nebraska location is desirable for the industry. The locational advantages Nebraska offers appear well-suited to plastics products manufacturers. They cover a wide spectrum, ranging from an attractive business climate to a high quality of life at a relatively low cost. But, as the study's model plant analysis demonstrates, the competitive advantages Nebraska offers in such important cost areas as labor and energy are particularly noteworthy. The state's well-educated and productive labor force is a long-standing asset, as are its very favorable electric and natural gas rates.

Essentially, the analysis presented in this study was based on state-to-state comparisons applicable to the plastics product manufacturing industry generally. Individual manufacturers will therefore need to further consider the locational requirements of their particular kinds of plastics products manufacturing as well as the merits of specific sites within states. Certainly in terms of general locational situations for plastics products manufacturers, Nebraska has much to offer.

The three organizations cooperating in the preparation of this study can also assist plastics products manufacturers in assessing advantages in Nebraska for a specific new location or expansion project. To obtain this assistance, write or call:

Economic Development Department
NEBRASKA PUBLIC POWER DISTRICT
PO Box 499
Columbus, Nebraska 68602-0499
(402) 563-5534
(800) 282-6773, ext. 5534
Email: rjnelse@nppd.com
econdev.nppd.com

Business Development Division
NEBRASKA DEPARTMENT OF ECONOMIC DEVELOPMENT
PO Box 94666
Lincoln, Nebraska 68509-9466
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APPENDIX A

The Nebraska Advantage consists of six "tiers" of investment and job creation activity. The following example spreadsheet illustrates the job creation and investment levels required and the tax incentives generated by Tier 2, which includes the estimated investment and jobs created for the model plastics products manufacturer discussed in Part B of this report.

NEBRASKA Advantage

Nebraska Advantage - TIER 2

Minimum 30 New Jobs & $1.7 Million Investment

Potential Tax Credits and Refunds

Plastics Project

January 1, 2012

I. Compensation Credit - Percent of annual compensation (Medicare wages) paid to all new employees over 7 year period.

Potential Tax Credits and Refunds

A. Assumptions are as follows -

Number of New Employees in Year 1:	50
Average Annual Salary * :	$29,806
Initial Payroll:	$1,490,320
Annual Cost-of-Living Increase Beginning Year 2:	3%
Combined Local & County Property Tax Rate:	0.01948200

** Only positions earning at least 60% of the Nebraska Average Wage are eligible to earn Compensation Credit.*

	Employees	Payroll	Hourly Wage	Comp % *	Comp Credit
Year 1	50	$1,490,320	$14.33	4%	$59,613
Year 2	50	$1,535,030	$14.76	4%	$61,401
Year 3	50	$1,581,080	$15.20	4%	$63,243
Year 4	50	$1,628,513	$15.66	4%	$65,141
Year 5	50	$1,677,368	$16.13	4%	$67,095
Year 6	50	$1,727,689	$16.61	4%	$69,108
Year 7	50	$1,779,520	$17.11	4%	$71,181
Total		$11,419,521			**$456,781**

Compensation Tax Credit **$456,781**

*** Use Table below to determine appropriate Compensation Percentage for each year.**

NOTE: *Compensation credit can be used against employee withholding up to amount paid in.*

	2011 Neb Ave Wage	60% NAW	75% NAW	100% NAW	125% NAW
Annual	**$36,644.00**	$21,986	$27,483	$36,644	$45,805
Hourly	**$17.62**	$10.58	$13.22	$17.62	$22.03
Compensation Credit %		**3%**	**4%**	**5%**	**6%**

***The Nebraska average wage for 2011 is utilized in 2012 to calculate wage incentives**

APPENDIX A – Continued

II. Investment Tax Credits and Sales Tax Refunds

A. Assumptions about project investment are as follows *

1.	Building Cost	
	A. OWN: Purchase/New Construction	$1,000,000
	OR	**OR**
	B. LEASE: Term of Lease Amount up to Ten Years	$0
2.	**Non-Manufacturing** Furniture, Fixtures, and Equipment	$200,000
3.	Additional Investment (over 7 years)	$200,000
	Total investment subject to Sales and Use Tax over a 7 year period	**$1,400,000**
4.	**Manufacturing** Machinery and Equipment (Exempt from Sales Tax)	$375,000
	TOTAL PROJECT INVESTMENT	**$1,775,000**

***** *Assumes values of building, equipment, furniture, and fixtures are **PRIOR** to application of any state and local sales or use taxes.*

Note: *For LB312 investment calculations, existing equipment and furnishings brought into the state can be calculated at original purchase price, rather than at depreciated value.*

B. Sales Tax Refund

State Sales Tax Rate	**5.5%**
Local Sales Tax Rate *	**1.5%**
TOTAL SALES TAX RATE	**7.0%**

* Current Local Sales & Use Tax Rates can be found at **http://www.revenue.ne.gov/question/sales.html**

1.	Building (calculates sales tax on materials only)				
	$500,000	X	0.070	=	$35,000
2.	Furniture, Fixtures, and Equipment				
	$200,000	X	0.070	=	$14,000
3.	Additional Investment (over 7 years)				
	$200,000	X	0.070	=	$14,000
	Total Sales Tax Refund:				**$63,000**

Sales Tax Refund **$63,000**

C. Investment Credit: Percent of investment in qualified property during 6-7 year entitlement period. Includes all investment in building, equipment and components. For leased space, investment is equal to annual lease rate times term of lease for up to 10 years. This credit may be applied to state corporate income tax liability or sales and use tax liabilities.

$1,775,000	**x**	**10%**	**=**	**$177,500**

Investment Tax Credit **$177,500**

TOTAL TAX CREDITS AND REFUNDS **$697,281**

WAIVER of LIABILITY: Officials representing the Nebraska Department of Economic Development have prepared the enclosed estimates to determine the amount of any benefits that might become available for this project under the Nebraska Advantage tax incentive program. Be advised that these represent projected benefits. The Nebraska Department of Revenue will make a final determination as to any tax incentives that may benefit this project. The Nebraska Department of Economic Development and its representatives waive any financial responsibility for the accuracy of these numbers should they be relied upon by anyone outside this State agency.

Nebraska Public Power District (NPPD), Nebraska's largest electric utility, is proud of the areas it serves and has published this document in an effort to assist in the economic development of the NPPD service area. For more information on Nebraska as a business location, contact the Economic Development Department, Nebraska Public Power District, General Offices,
1414 15th Street, PO Box 499, Columbus, Nebraska 68602, (800) 282-6773,
Fax: (402) 563-5090. Visit our web site at econdev.nppd.com.

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