

The Effects of the Sales and Use Tax Exemption For Manufacturing Machinery

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2004, W.S. 39-15-105(a)(viii)(O) and W.S. 39-16-105(a)(viii)(D)

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Overview

Original House Bill No. 44 (Enrolled Act No. 20) was signed into law on March 3, 2004. This act relates to taxation and revenue and provides for a sales and use tax exemption for machinery and machine tools used directly and predominantly in manufacturing in the State of Wyoming. The act provides for definitions, limitations, a reporting requirement and an effective date. This law took effect on July 1, 2004, and per subsequent amendments, has a sunset of December 31, 2017. In the 2017 legislative session, the sunset date was extended to December 31, 2027.

The manufacturing machinery exemption is located within the “economic incentive” group of sales and use tax exemptions in the Wyoming statutes [W.S. 39-15-105(a)(viii); W.S. 39-16-105(a)(viii)]. The law exempts from Wyoming sales and use taxes, until December 31, 2027, the sale or lease of machinery to be used in Wyoming directly and predominantly in manufacturing tangible personal property provided,

- The sale or lease is to a manufacturer classified by the Department of Revenue under the North American Industry Classification System (NAICS) code manufacturing section 31 – 33; and
- The sale or lease does not include noncapitalized machinery except machinery expensed in accordance with Section 179 of the Internal Revenue Code.

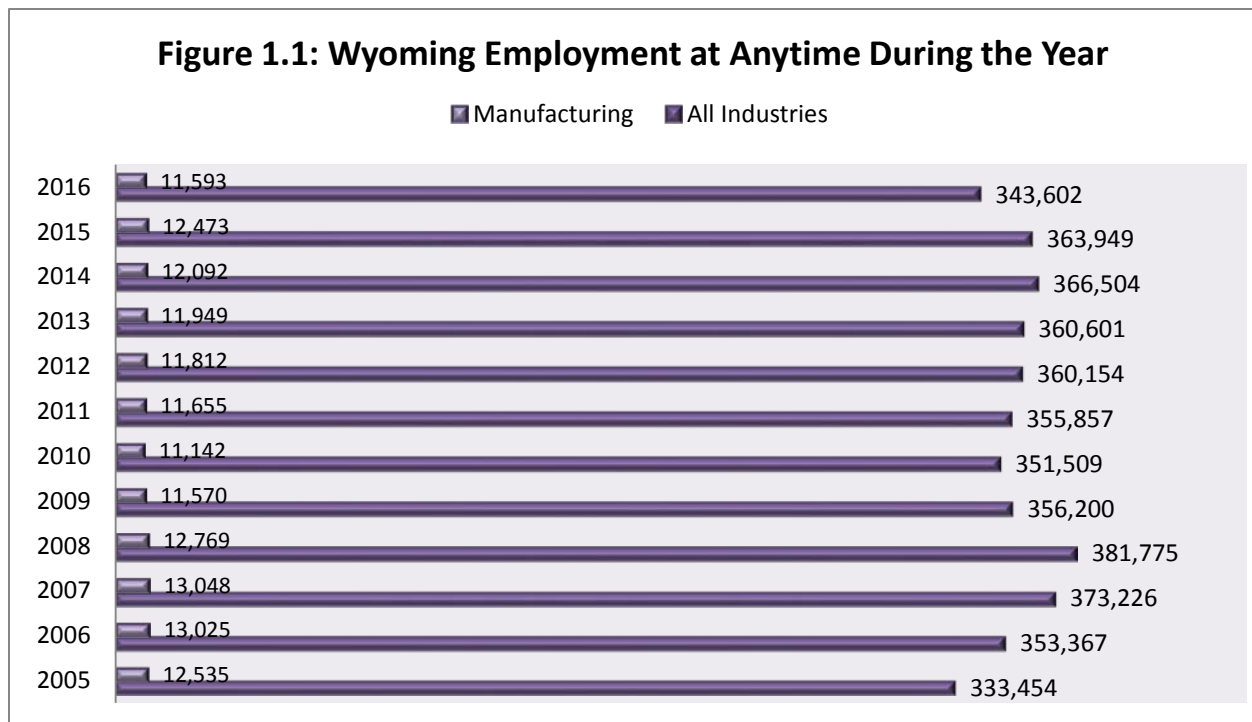
Specific Requirements by Statute

2011 Session Laws, Chapter 83 requires the Wyoming Business Council, the Department of Workforce Services, and the Department of Revenue to report on this exemption annually to the Joint Revenue Interim Committee. Specifically, on or before December 1 of each year the exemption is in effect, these agencies are to report the effects of the sales and use tax exemption for manufacturing machinery. If requested by the Department of Revenue, any person utilizing the exemption shall report the amount of sales tax exempted and the number of jobs created or impacted by utilization of the exemption. Furthermore, the report is to evaluate the cumulative effects of the exemption from initiation of the exemption and shall include:

- (i) A history of employment in terms of the numbers of employees, full-time and part time employees, and rate of turnover classified by the 2007 edition, as amended, of the North American Industry Classification System (NAICS) code manufacturing section 31 – 33 from information collected by the Department of Employment;
- (ii) A history of wages and benefits disaggregated by gender for each job category; and
- (iii) A comprehensive history of taxes paid to the state of Wyoming.

Employment

The total number of persons working in Wyoming stood at 333,454 persons in 2005.¹ Of that, employment in the Manufacturing Industry accounted for 12,535 persons, or 3.76% of the total employment pool. Wyoming employment realized moderate growth during the next three years and peaked in 2008 with total employment reaching 381,775 persons. After losing 30,266 positions including 1,627 in the manufacturing industry from 2008 to 2010, Wyoming's total employment further reduced from 363,949 in 2015 to 343,602 in 2016. Employment in the manufacturing industry also showed a decline from 12,473 to 11,593, in the same period.² Figure 1.1 details employment history from 2005 to 2016 in both the Manufacturing Industry and Wyoming at large.



Over time, the relationship of male to female workers has remained relatively constant. In 2005 men occupied 49% of the workforce and women occupied 42%. With slight variances every year, by 2016, men accounted for 47% of the workforce and women accounted for 40% of the workforce. The remaining 13% are not identified by gender.³

The percentage of male to female workers is remarkably higher within the Manufacturing Industry. For years 2005 through 2008, men accounted for roughly 73% while women accounted for roughly 21%. This has stayed relatively constant with men holding, on average, 74% of the available workforce and women making up an additional 20% of the workforce in 2016.⁴

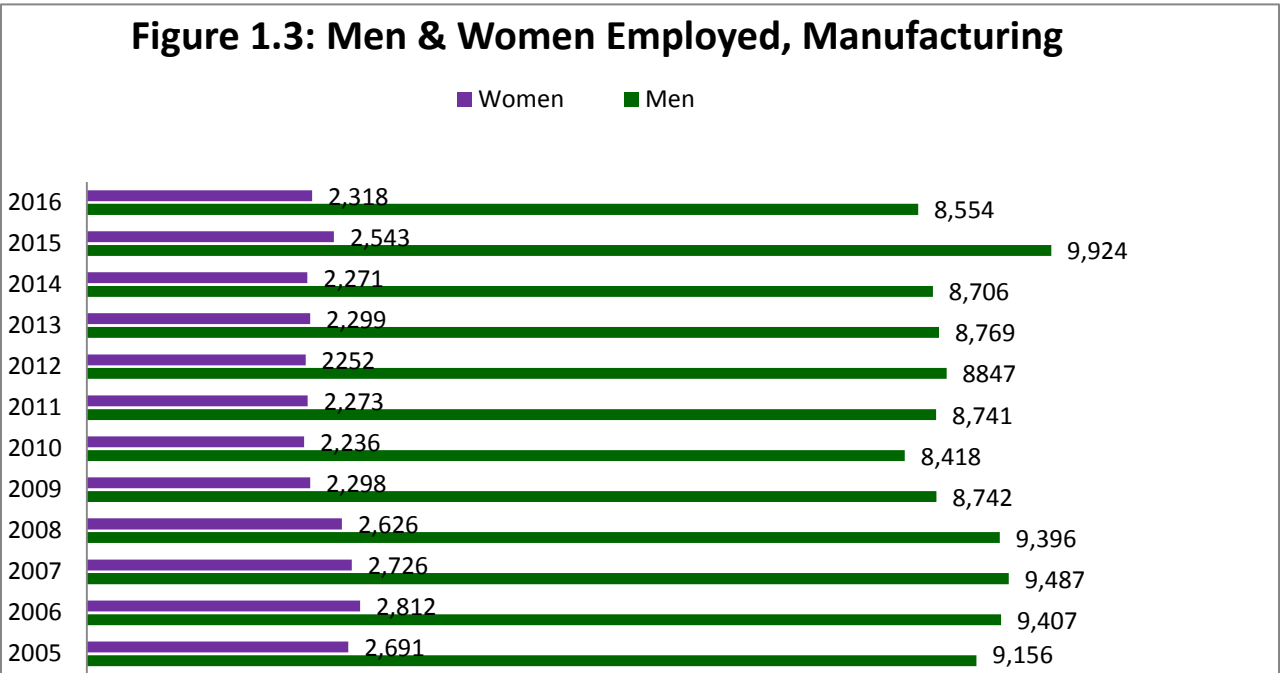
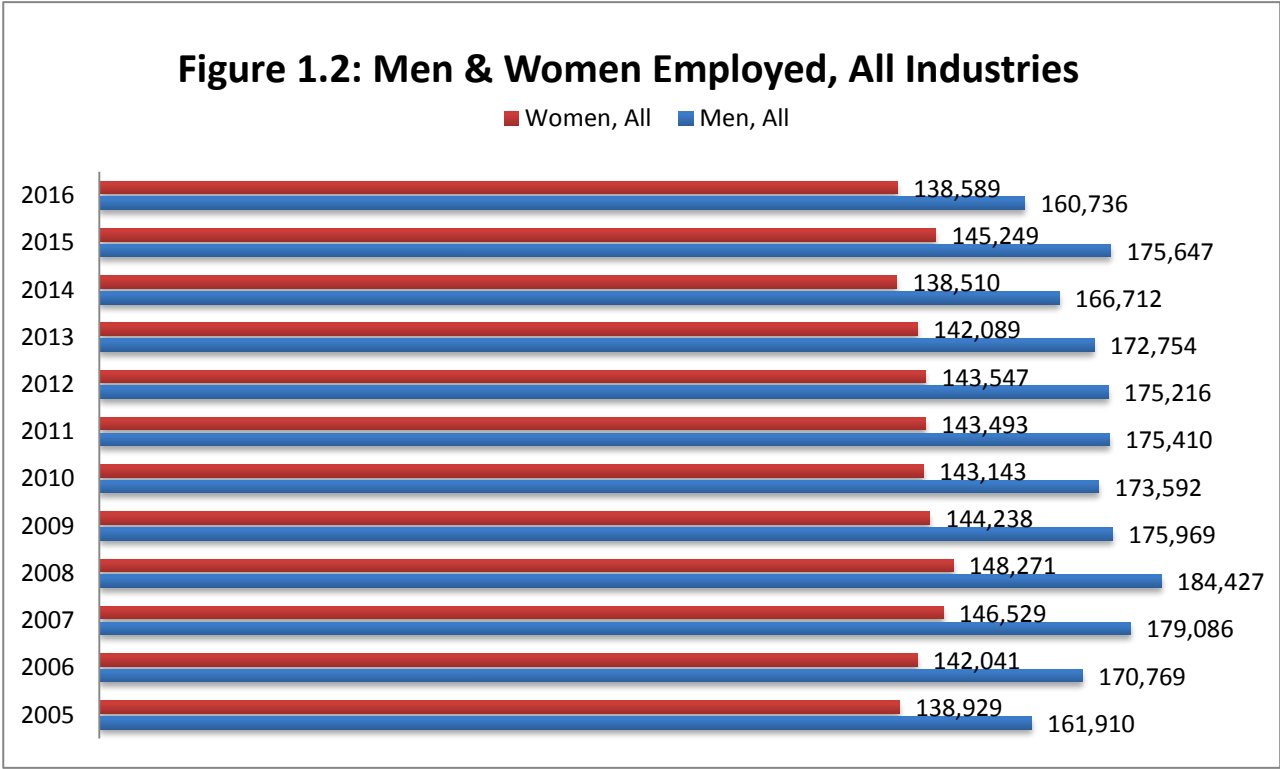
¹ Wyoming Department of Workforce Services, Research & Planning (2016). *Earnings in Wyoming by Industry, Age & Gender, 2000-2016*.

² Ibid.

³ Ibid.

⁴ Ibid.

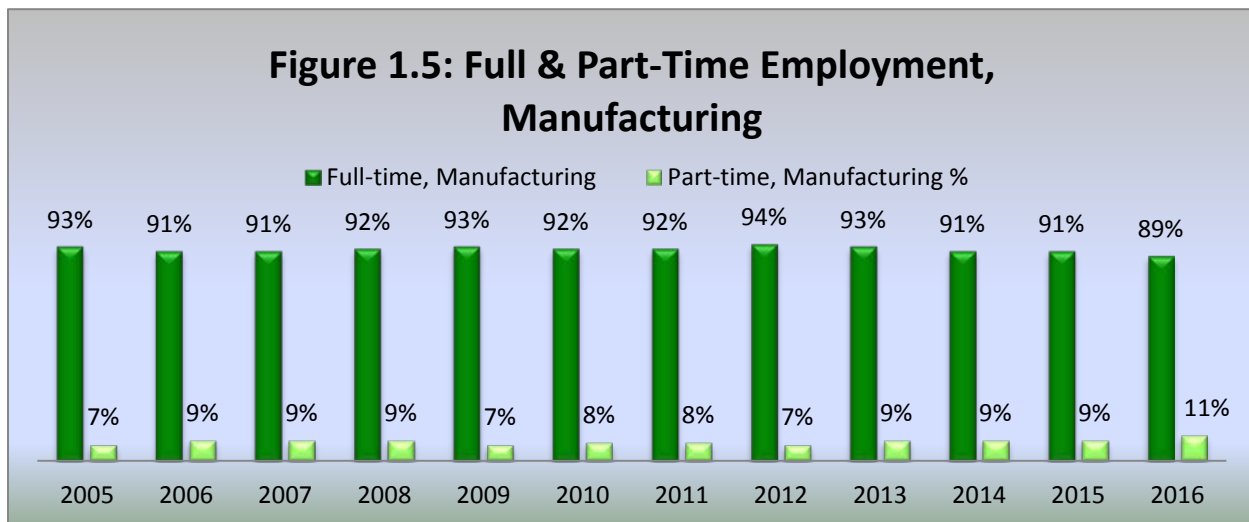
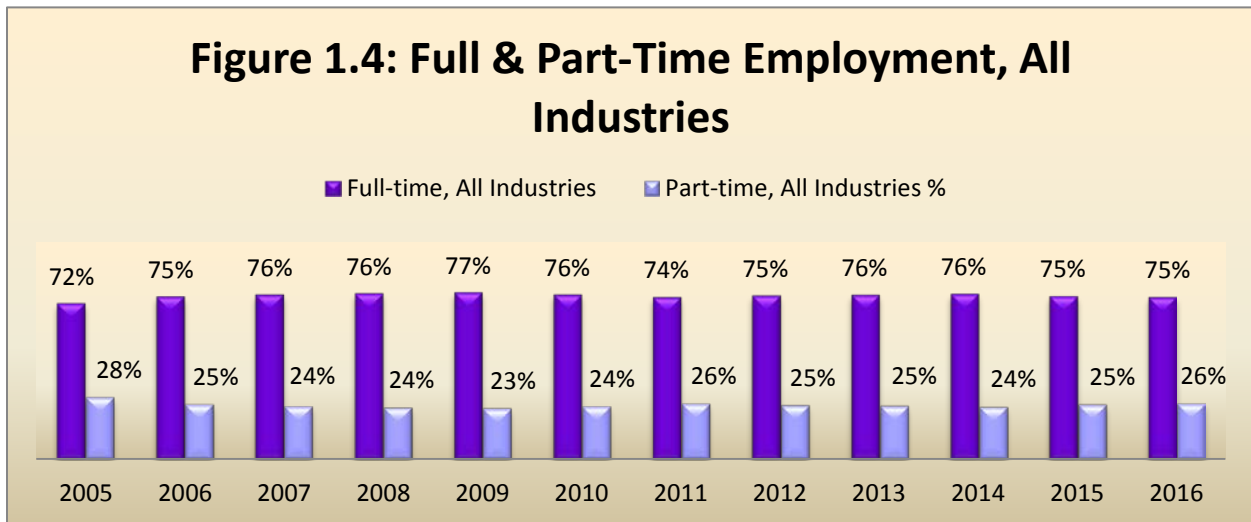
Figures 1.2 and 1.3 detail employment by gender both in the Manufacturing Industry and Wyoming at large.



The number of persons employed in full-time versus part-time capacities across Wyoming has also remained relatively stable during the survey period. Regarding full-time employment for All

Industries, 2005 held the low spot with 72% and the high spot in 2009 with 77%. From 2010 to 2016 the full-time employment average between 75% and 76%. From years 2005 through 2016, part-time employment for All Industries ranged from 23% - 28%.⁵

For inclusion in this report, the Department made a special request of the Wyoming Department of Workforce Services, Research and Planning Office to provide data for full and part-time employment specifically for the manufacturing sector. For those employed in the manufacturing sector, full-time employment held a steady 91% or above average for years 2005 through 2015 with a slight decline in 2016 to 89%. Figures 1.4 and 1.5 graphically compares full-time and part-time employment for All Industries and Manufacturing.



⁵ Wyoming Department of Revenue. *The Effects of the Sales and Use Tax Exemption for Manufacturing Machinery, Eleventh Edition.* (2016).

A discussion about those employed in the manufacturing industry is not complete without a closer review of the Standard Occupational Classification (SOC) system. Wyoming utilizes the SOC system to categorize workers within the state; and while manufacturing has its own SOC code, several other occupational groups are typically found in the manufacturing industry as well. Table 1.1 (page 7) illustrates the total number of persons working in the selected SOC categories within Wyoming from year 2005.⁶

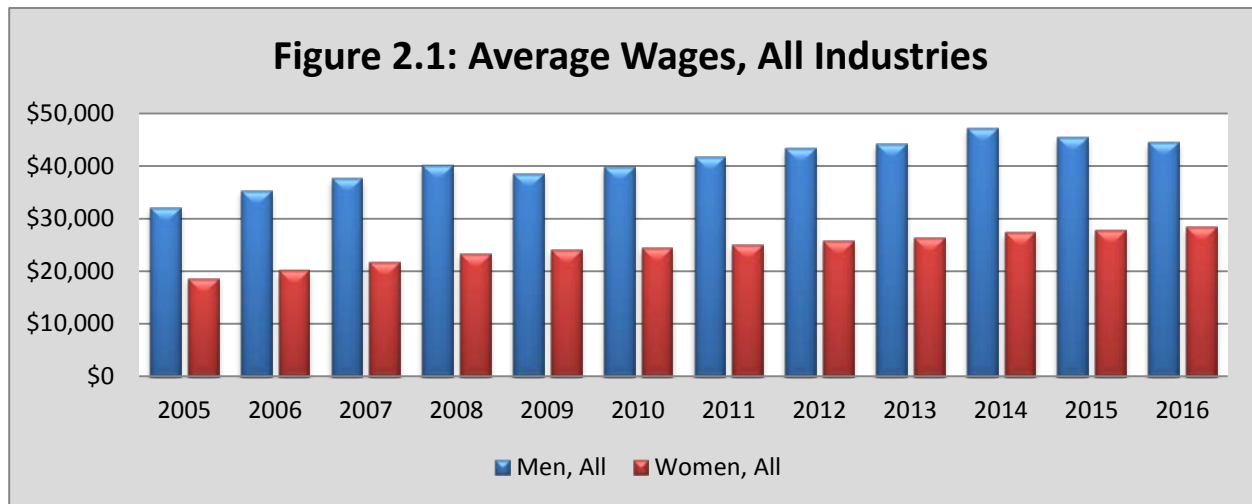
⁶ Wyoming Department of Work Force Services. *Wyoming Occupational Employment and Wages, September 2016*. Prior to 2016, Wyoming Department of Revenue. *The Effects of the Sales and Use Tax Exemption for Manufacturing Machinery, Eleventh Edition*. (2016).

**Table 1.1: Employment per SOC Classifications typically found in the Manufacturing Industry for
Years 2005 – 2016**

SOC	Occupational Title	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
11-000	Management	12,780	12,450	NA	12,550	12,770	12,710	12,370	12,090	12,200	12,040	12,200	11,520
13-000	Business & Financial	6,270	6,720	NA	7,070	7,290	7,350	7,270	7,530	7,850	8,130	8,540	8,820
15-000	Computer & Mathematical	1,930	2,050	NA	2,040	2,210	2,200	2,210	2,290	2,620	2,750	2,730	2,650
17-000	Architecture & Engineering	3,920	4,250	NA	4,650	5,150	5,040	5,090	5,090	4,910	5,130	5,580	5,690
19-000	Life, Physical & Social Services	4,210	4,270	NA	4,260	4,750	4,860	4,360	4,250	4,340	4,180	4,520	4,420
27-000	Arts, Design, Entertainment, Sports & Media	2,740	2,490	NA	2,570	2,900	3,130	2,920	2,970	2,810	3,100	3,110	3,280
29-000	Healthcare Practitioners & Technical	10,550	10,850	NA	11,520	12,000	12,770	13,130	13,280	13,360	13,530	14,020	14,140
35-000	Food Preparation & Serving Related	24,440	23,600	NA	24,140	24,810	24,430	23,070	23,270	24,710	24,740	25,040	25,080
37-000	Building & Grounds Cleaning & Maintenance	10,030	11,110	NA	11,370	11,950	11,250	11,220	11,110	11,070	11,350	11,440	11,390
41-000	Sales & Related	21,760	22,480	NA	23,390	24,110	23,850	22,720	22,630	23,000	23,110	23,880	24,750
43-000	Office & Administrative Support	36,160	36,530	NA	37,870	38,720	38,490	37,190	37,610	36,790	36,630	36,170	36,600
47-000	Construction & Extraction	27,090	29,260	NA	33,090	37,100	36,510	32,620	33,210	33,770	33,070	32,860	31,720
49-000	Installation, Maintenance & Repair	14,730	15,520	NA	17,380	17,740	18,080	16,890	17,790	18,370	18,170	18,460	18,730
51-000	Production	11,900	13,060	NA	14,320	14,830	14,200	13,280	12,300	13,260	12,850	13,230	13,180
53-000	Transportation & Material Moving	24,020	26,640	NA	25,570	25,810	24,820	22,060	22,450	23,160	23,700	24,850	25,330

Wages

The average wage for men in All Industries in 2005 was \$32,218. After a setback, in 2009 men's wages increased though 2014. 2015 showed a slight decline from 2014 and in 2016 mens wages show a further decline to \$44,544. In comparing the average wage in All Industries from 2005 through 2016, the average annual wage for men rose roughly 38%. Unlike their male counterparts female workers did not face a setback, rather experienced consistent annual wage increases in All Industries from 2005 through 2016, starting at \$18,721 in 2005 and reaching \$28,521 in 2016, an increase of \$9,800 or roughly 52%.⁷ Figure 2.1 details the average worker's wage during the surveyed periods.



Men and women employed in the Manufacturing sector enjoy higher wages than their counterparts in All Industries, and have also seen annual wage increases over the last nine years. In 2005, men employed in Manufacturing earned an average annual wage of \$38,463 and women earned \$19,795. In 2016, the average wage for men and women rose to \$61,155 and \$33,079 respectively.⁸ Figure 2.2 (page 9) portrays the average Wyoming wage for manufacturing categorized by gender between years 2005 and 2016. Figures 2.3, 2.4 and 2.5 (all also on page 9) compare average wages within the Manufacturing Industry to All Industries. Also between 2005 and 2016, wages increased per SOC occupation. Table 2.1 (page 10) outlines wages typically found by SOC occupation.⁹

⁷ Wyoming Department of Workforce Services, Research & Planning (2016). *Earnings in Wyoming by Industry, Age & Gender, 2000-2016*.

⁸ Ibid.

⁹ Ibid.

Figure 2.2: Average Wages, Manufacturing

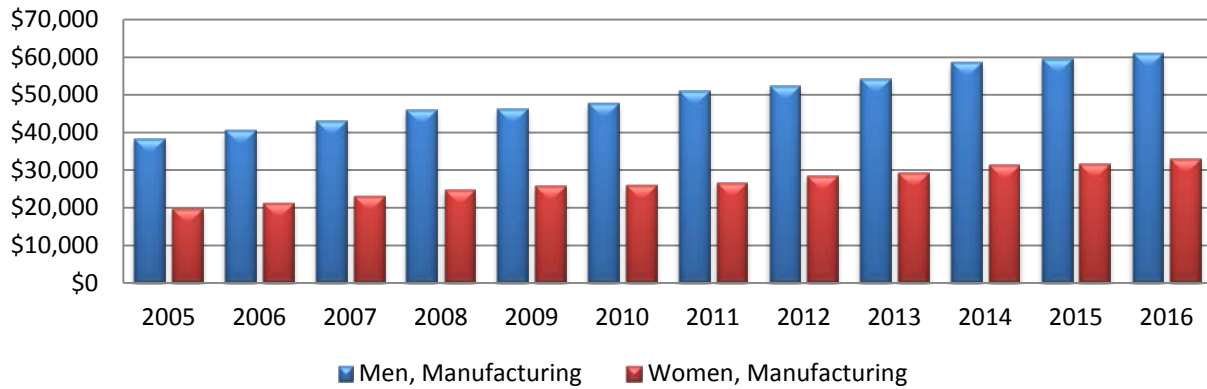


Figure 2.3: Wages, Men



Figure 2.4: Wages, Women

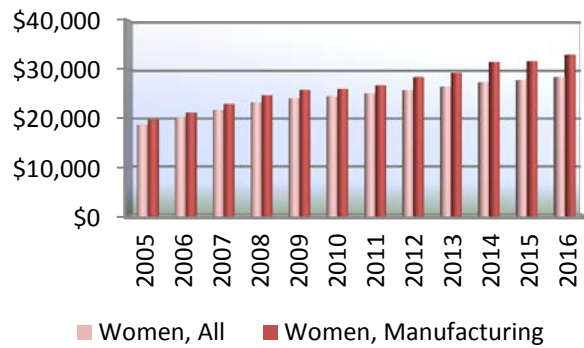


Figure 2.5: Wages, Manufacturing V. All Industries

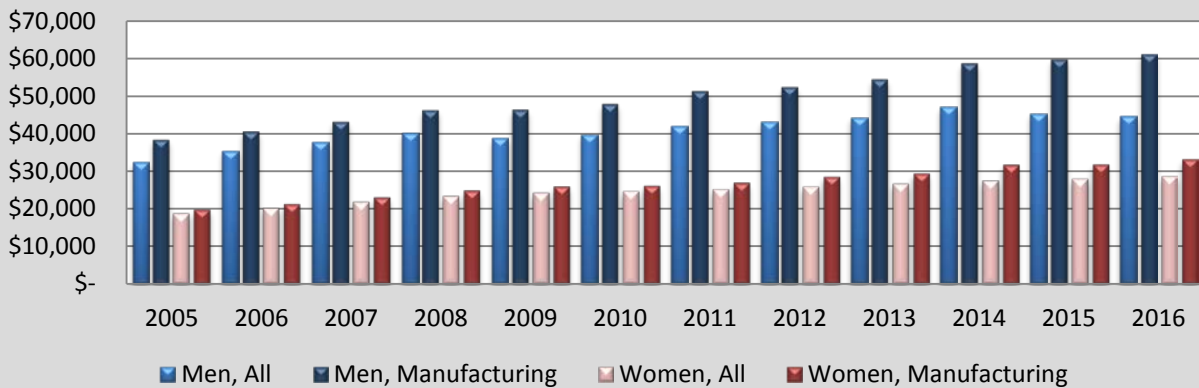


Table 2.1: Hourly Median Wage

SO C	Occupational Title	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
11-000	Management Occupations	\$ 27.66	\$ 28.79	NA	\$ 31.40	\$ 32.83	\$ 34.56	\$ 36.04	\$ 36.75	\$ 38.16	\$ 39.42	\$ 40.85	\$ 42.09
13-000	Business & Financial	\$ 19.67	\$ 21.03	NA	\$ 22.90	\$ 23.78	\$ 24.92	\$ 25.92	\$ 26.43	\$ 26.94	\$ 27.92	\$ 28.80	\$ 29.04
15-000	Computer & Mathical	\$ 20.27	\$ 21.90	NA	\$ 23.75	\$ 25.14	\$ 25.71	\$ 26.62	\$ 27.30	\$ 27.51	\$ 27.65	\$ 28.00	\$ 28.70
17-000	Architecture & Engineering	\$ 24.23	\$ 25.89	NA	\$ 27.72	\$ 29.19	\$ 30.40	\$ 30.88	\$ 31.61	\$ 30.40	\$ 31.68	\$ 32.86	\$ 33.73
19-000	Life, Physical & Social Services	\$ 20.11	\$ 20.98	NA	\$ 22.94	\$ 22.35	\$ 22.84	\$ 23.74	\$ 4.68	\$ 24.88	\$ 26.19	\$ 26.37	\$ 26.55
27-000	Arts, Design, Entertainment, Sports, etc.	\$ 12.13	\$ 13.31	NA	\$ 13.48	\$ 13.35	\$ 14.12	\$ 15.44	\$ 15.57	\$ 16.42	\$ 16.81	\$ 16.18	\$ 16.70
29-000	Healthcare Practitioners & Technical	\$ 22.37	\$ 23.19	NA	\$ 25.07	\$ 25.35	\$ 26.92	\$ 7.41	\$ 28.32	\$ 28.72	\$ 29.21	\$ 29.07	\$ 29.79
35-000	Food Preparation & Serving Related	\$ 6.92	\$ 6.32	NA	\$ 7.97	\$ 8.55	\$ 8.96	\$ 9.11	\$ 9.24	\$ 9.15	\$ 9.21	\$ 9.33	\$ 9.72
37-000	Building & Grounds Clearing & Maint.	\$ 8.86	\$ 9.31	NA	\$ 10.24	\$ 10.78	\$ 11.23	\$ 11.33	\$ 11.46	\$ 11.50	\$ 11.85	\$ 11.90	\$ 12.39
41-000	Sales & Related	\$ 9.11	\$ 9.58	NA	\$ 10.17	\$ 10.57	\$ 11.13	\$ 11.49	\$ 11.86	\$ 12.06	\$ 12.41	\$ 12.79	\$ 12.83
43-000	Office & Administration Support	\$ 11.09	\$ 11.70	NA	\$ 12.71	\$ 13.43	\$ 13.92	\$ 14.35	\$ 14.61	\$ 15.11	\$ 15.15	\$ 15.63	\$ 16.03
47-000	Construction & Extraction	\$ 16.29	\$ 17.68	NA	\$ 18.84	\$ 19.38	\$ 19.75	\$ 20.66	\$ 21.13	\$ 21.45	\$ 21.72	\$ 22.72	\$ 23.03
49-000	Installation, Maintenance & Repair	\$ 18.24	\$ 18.81	NA	\$ 19.92	\$ 20.13	\$ 20.98	\$ 21.82	\$ 22.92	\$ 23.06	\$ 23.57	\$ 23.78	\$ 24.34
51-000	Production	\$ 14.26	\$ 15.21	NA	\$ 17.00	\$ 18.53	\$ 19.75	\$ 21.12	\$ 21.57	\$ 21.27	\$ 21.85	\$ 22.70	\$ 24.12
53-000	Transportation & Material Moving	\$ 14.16	\$ 14.99	NA	\$ 15.50	\$ 15.82	\$ 16.25	\$ 17.12	\$ 18.13	\$ 19.01	\$ 19.32	\$ 19.44	\$ 19.93

Benefits

In accordance with the specific statutory requirements, the Department of Revenue has included benefit data collected by the Wyoming Department of Work Force Services, Research & Planning Division. Employers are surveyed on a quarterly basis and the compiled results are published annually as part of *Wyoming Benefits Survey* publications. However, starting in 2013, the Department requested benefit information prior to the Benefits Survey official publication.¹⁰ Workforce Services tracks twenty benefits that may or may not be offered to employees. For simplicity sake, the Department of Revenue opted to follow seven of the most familiar benefits offered by employers during years 2005 through 2016.

Benefits offered to full-time employees in All Industries increased at a steady pace from 2005 through 2006 and generally increased from 2009 through 2013. In 2014 to present a majority of employee benefits offered has declined. All Industries would see an increase in medical benefits offered to full-time employees over 2015.

Benefits offered by employers to full-time employees in the manufacturing industry has fluctuated. For 2016 benefits declined in all areas except Medical and long term disability which showed a slight increase from 2015. In spite of the decreases, benefits offered to full-time employees in the Manufacturing Industry enjoyed greater access to benefits offered than those employees in All Industries. Tables 3.1 and 3.2 (page12) represent a compilation of excerpts from the *Wages and Benefits Surveys*, and chronicle the selected benefits offered to full-and part-time employees across All Industries and isolated specifically to those offered in the Manufacturing Industry.¹¹

Table 3.1 Percentage of Full-time Employess Offered Select Benefits, Manufacturing v. All Industries

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Medical Ins., Manf	80.5	85.5	75.5	88.1	84.7	89.7	85.5	86.7	87.9	82.1	82.0	83.3
Medical Ins., All	78.0	79.2	76.3	80.1	80.2	80.0	77.7	84.8	81.9	78.6	79.7	80.5
Dental Plan, Manf	67.2	73.2	52.2	77.9	70.9	82.0	74.2	80.2	86.1	83.0	77.5	74.9
Dental Plan, All	67.8	69.7	65.3	67.7	71.7	67.7	70.5	72.0	73.5	73.6	73.1	68.4
Life Ins, Manf	71.2	76.5	62.5	80.7	77.2	77.1	80.6	83.0	85.4	85.1	82.1	77.2
Life Ins, All	66.8	69.7	67.3	71.1	71.6	69.8	68.8	71.1	73.3	72.2	72.1	71.0
Paid Vacation, Manf	81.4	85.9	90.1	85.4	82.7	77.9	89.9	87.3	84.6	78.5	71.9	68.7
Paid Vacation, All	74.8	76.0	71.8	71.8	75.3	79.4	73.0	72.9	72.8	74.3	70.2	68.5
Retirement, Manf	76.4	81.4	80.8	84.2	78.4	76.4	86.2	85.2	84.2	82.8	76.5	73.0
Retirement, All	75.2	77.8	75.8	79.0	78.3	76.5	73.5	75.4	77.2	74.8	76.3	75.8
Paid Sick, Manf	53.0	41.1	20.6	48.7	50.1	40.2	52.6	44.0	35.3	34.9	37.7	27.8
Paid Sick, All	51.7	47.0	39.1	42.7	50.8	47.8	50.9	50.0	49.1	54.3	51.3	50.3
LT Disability, Manf	46.9	56.3	33.8	45.0	42.6	57.5	64.8	69.3	73.8	61.0	54.4	56.2
LT Disability, All	45.1	44.1	40.7	42.7	50.9	40.5	46.9	50.4	53.8	53.1	49.5	49.3

¹⁰ Wyoming Department of Work Force Services. *Wyoming Occupational Employment and Wages, September 2016*. Prior to 2016, Wyoming Department of Revenue. *The Effects of the Sales and Use Tax Exemption for Manufacturing Machinery, Eleventh Edition*. (2016). 2016 preliminary data by special request provided by Wyoming Department of Work Force Services.

¹¹ Ibid

Table 3.2 Percentage of Part-time Employees Offered Selected Benefits, Manufacturing v All Industries

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Medical Ins., Manf	12.7	5.7	0.0	11.6	2.0	3.7	7.4	8.1	8.7	9.0	7.7	8.2
Medical Ins., All	11.3	12.1	13.4	9.8	19.8	11.4	9.7	14.8	19.8	12.1	12.8	10.9
Dental Plan, Manf	12.1	5.2	0.0	13.4	1.0	4.5	7.4	10.3	12.3	10.0	8.2	8.2
Dental Plan, All	9.4	11.2	11.9	9.2	18.3	11.4	9.9	28.2	18.3	11.9	13.5	11.2
Life Ins, Manf.	60.0	1.2	2.0	5.6	1.0	0.6	7.4	6.1	4.8	3.3	2.6	2.1
Life Ins, All	8.1	8.9	10.0	9.4	13.9	11.7	9.3	12.3	15.3	10.1	13.1	10.4
Paid Vacation, Manf	5.4	7.1	17.3	8.6	3.2	10.5	10.9	7.0	3.1	5.4	7.4	5.1
Paid Vacation, All	21.3	21.8	28.5	17.4	18.5	21.8	14.6	17.7	20.8	19.1	19.4	15.0
Retirement, Manf	21.0	18.7	23.9	21.4	2.6	12.5	19.6	17.6	15.6	14.2	15.3	15.1
Retirement, All	28.3	30.8	33.1	33.1	32.4	27.9	25.0	26.2	27.3	21.9	23.8	26.1
Paid Sick, Manf	0.0	0.7	3.4	4.8	4.2	2.7	1.6	3.1	4.5	1.8	1.4	2.3
Paid Sick, All	19.7	17.5	15.1	11.1	18.2	13.7	14.7	14.7	14.7	13.4	15.4	12.8
LT Disability, Manf	0.0	0.0	0.0	6.3	0.3	0.0	0.0	0.9	1.5	0.4	0.1	0.8
LT Disability, All	5.7	6.0	6.2	6.0	9.3	6.1	4.9	6.3	7.6	8.3	11.0	9.1

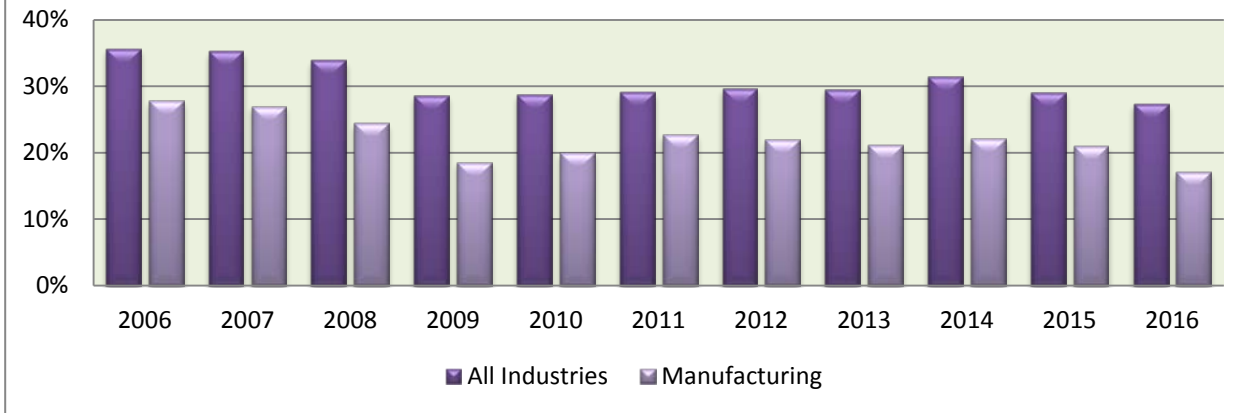
Turnover

Turnover is the rate at which an employer gains or loses employees and includes open positions new hires, and exits, as well as attrition that exists over a specific period of time. An unusually high turnover rate is symptomatic of challenges related to a possible host of factors both externally and internally, such as benefits offered, pay, recognition, schedules, or even industry health. In whole from 2005 through 2016, the Manufacturing Industry experienced considerably lower turnover rates than All Industries.

On average between 2005 and 2016 the Manufacturing Industry experienced a 9% lower turnover rate than those employed in All Industries statewide. Even when the overall rate of turnover in Wyoming decreased to 27.4% in 2016, Manufacturing industry turnover hovered around 17.1%. Figure 3.1 (page 13) illustrates Wyoming’s annual turnover rates for the Manufacturing Industry as compared to All Industries for years 2005-2016.¹²

¹² Wyoming Department of Workforce Services, *Wyoming Industry Turnover by Year and Quarter, 1992Q1 to 2016Q2*, (totals derived from Q1 – Q4 yearly average).

Figure 3.1: Employment Turnover Rates

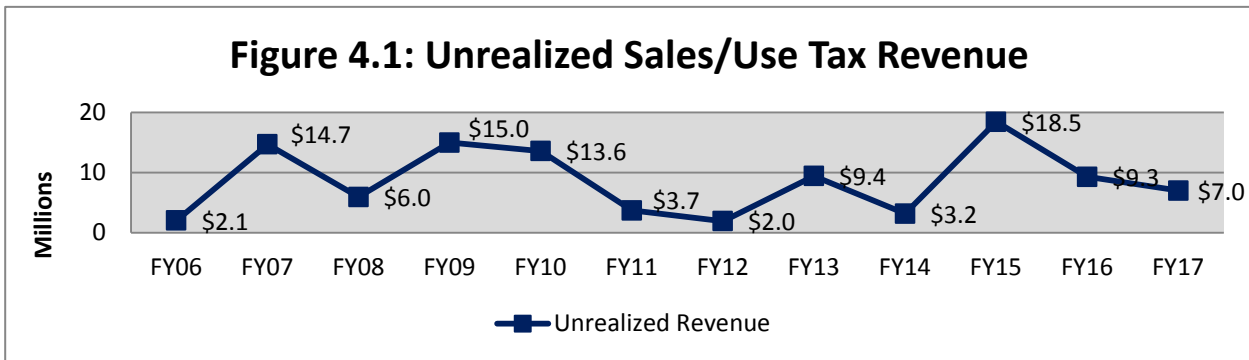


Exemption Cost

Based on survey responses in 2017, for purchases between the periods of July 1st, 2016 through June 30th, 2017, exempt manufacturing machinery purchases by Wyoming manufacturers equaled \$130,815,075.98.¹³ As a result of this exemption and applying the average sales and use tax rate of 5.38%, unrealized sales and use tax revenue for the State of Wyoming totaled \$7,037,851.09. Of the 550 responses received, 163 companies reported exempt machinery purchases.

Figure 4.1 shows unrealized sales/use tax revenue from years 2006–2017 for exempt manufacturing purchases.¹⁴

Figure 4.1: Unrealized Sales/Use Tax Revenue



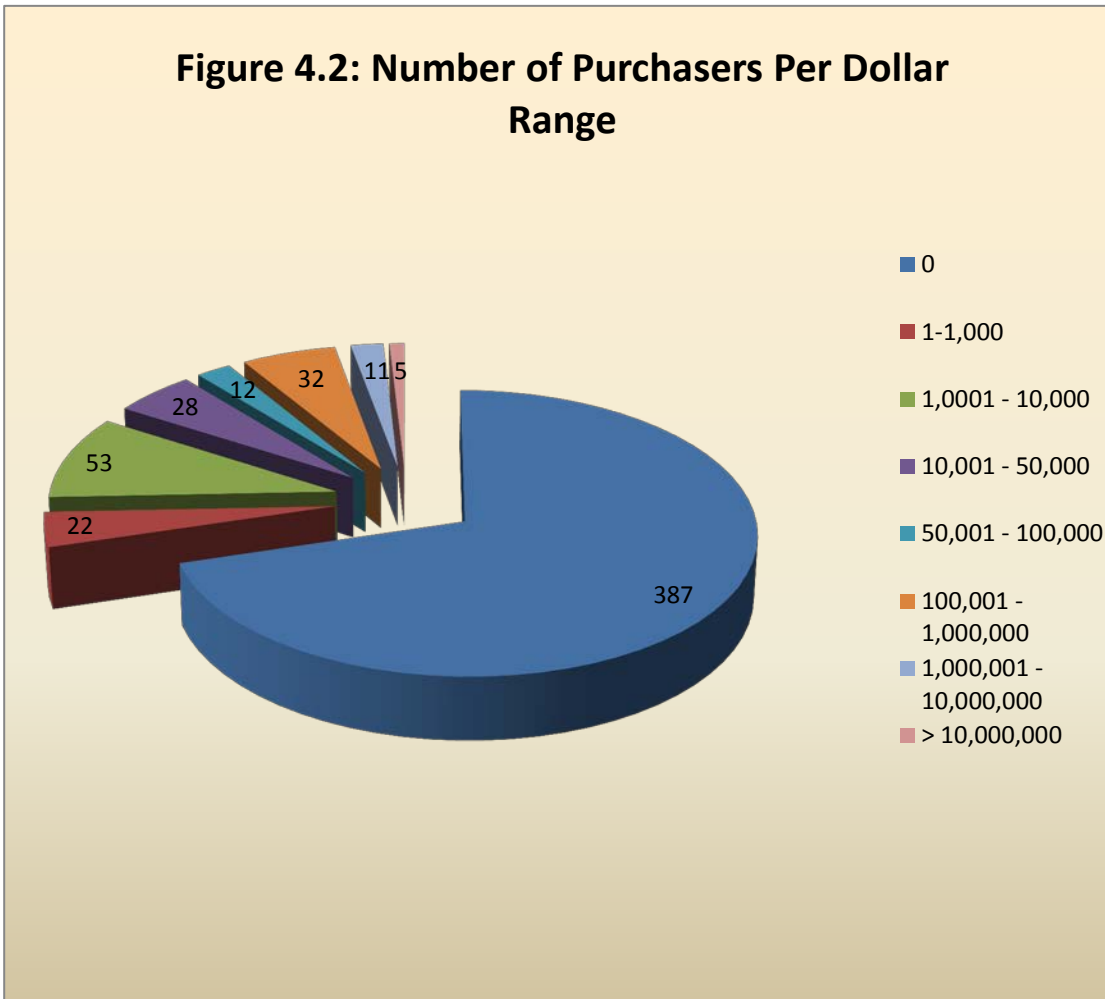
¹³ Survey aggregate for 2017.

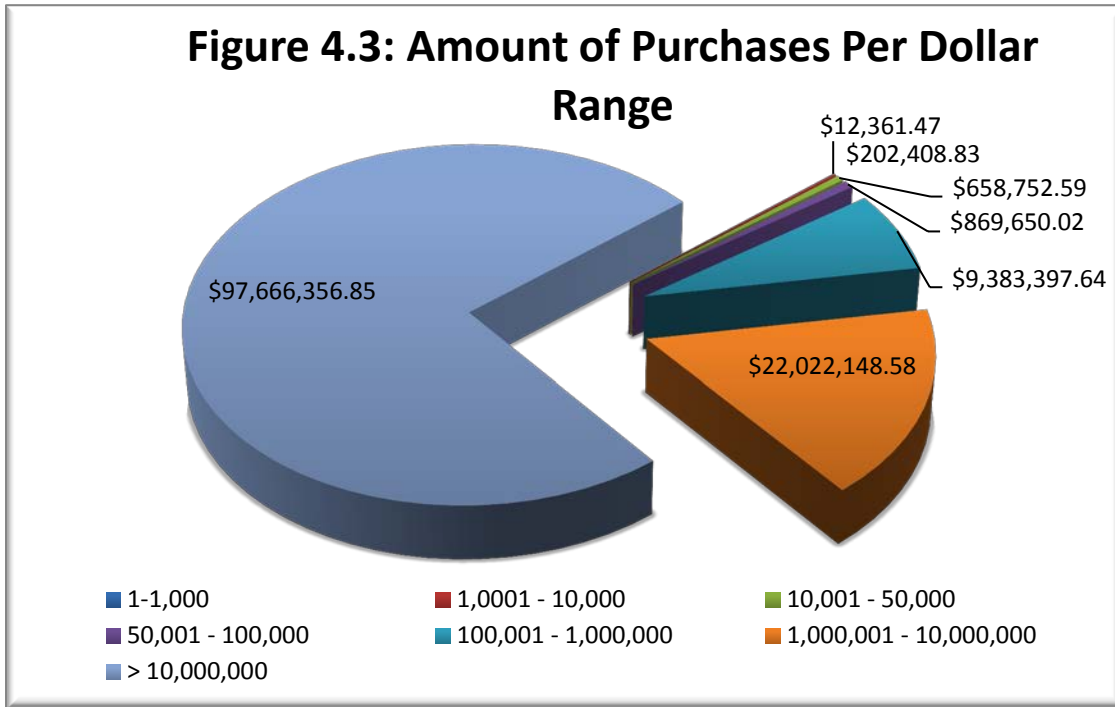
¹⁴ Wyoming Department of Revenue. *The Effects of the Sales and Use Tax Exemption for Manufacturing Machinery, Eleventh Edition* (2016).

In addition to exact figures, the Department also evaluated purchased based on seven dollar ranges:

- \$0 by 387 purchasers
- \$1 - \$1,000: \$12,361.47 by 22 purchasers
- \$1,001 - \$10,000: \$202,408.83 by 53 purchasers
- \$10,000 - \$50,000 \$658,752.59 by 28 purchasers
- \$50,000 - \$100,000 \$869,650.02 by 12 purchasers
- \$100,001 - \$1,000,000 \$9,383,397.64 by 32 purchasers
- \$1,000,000 - \$10,000,000 \$22,022,148.58 by 11 purchasers
- \$10,000,000+ \$97,666,356.85 by 5 purchasers

The final range, \$10M+, accounts for approximately 75% of all purchases. Figure 4.2 graphically represents the number of purchasers per dollar range. Figure 4.3 (page 15) illustrates the dollar amount purchased per dollar range.





**Economic Modeling
Economic Analysis Divison**

REMI Analyses: Economic Impacts

The analyses of the economic impacts of the sales and use tax exemption for purchases of machinery and machine tools used directly and predominantly in manufacturing was prepared using the Regional Economic Models, Inc. (REMI) PI+ model. REMI PI+ is the next generation Policy Insight model built exclusively for Wyoming. It is an integrated model that combines the best features of the input-output, general equilibrium, econometric, and economic geography methodologies. PI+ is also a dynamic rather than a static model allowing for year-by-year analysis of the total regional effects of any specific policy initiative.

The economic impact of the **removal of the sales tax exemption** for purchases of manufacturing machinery and machine tools used directly and predominantly in manufacturing was modeled in REMI as an increase in the production costs for the manufacturing industry of \$10.0 million per year beginning in 2016 (see Attachment A, Table 1). The removal of this exemption would result in an average annual loss of 88 jobs and a decrease in GDP of \$13.3 million per year over the period of 2016 to 2030 when compared to the baseline scenario.

The manufacturing, construction, retail trade, and mining sectors bear the brunt of the job losses. While manufacturing, construction, and mining sectors account for the direct job losses, the retail

trade sector in particular will be hindered by the decline of disposable personal income. Fewer jobs and a decline in salaries will result in less household spending.

The economic impact of the **adding of the sales tax exemption** for purchases of manufacturing machinery and machine tools used directly and predominantly in manufacturing was modeled in REMI as a decrease in the production costs for the manufacturing industry of \$10.0 million per year beginning in 2016 (see Attachment A, Table 2). The addition of this exemption would result in an average annual gain of 89 jobs and an increase in GDP of \$13.4 million per year over the period of 2016 to 2030 when compared to the baseline scenario.

The manufacturing, construction, retail trade, and mining sectors will receive the majority of the job gains. While manufacturing, construction, and mining sectors account for the direct job gains, the retail trade sector in particular will be aided by the increase of disposable personal income. More jobs and an increase in salaries will result in more household spending.

Attachment A shows the REMI table of analyses, definitions of terminology used and more detailed information regarding the REMI model.

Wyoming Business Council

The RPAS model has been developed for Wyoming by Applied Economics, LLC of Phoenix, Arizona, www.aeconomics.com. The model identifies measurable effects associated with either a specific activity in a specific location or the value of economic and revenue impacts of existing businesses. The model has multipliers for 66 NAICS-based industry types based on Minnesota IMPLAN group data. It provides the value of additional output for job creation in addition to the direct jobs created and measures direct and indirect property and sales tax benefits to local and state revenues.

Refer to **Attachment B** for the detailed information regarding the RPAS model.

Survey Costs and Process

This is the twelfth report in a series of annual reports on the effects of the sales and use tax exemption for manufacturing machinery. Costs to print the survey, cover letter and postage are estimated at \$543.90. The primary expenses associated with this report are the time spent identifying appropriate recipients, creating manual and electronic versions of the survey, maintaining various databases for recipient responses, fielding telephone calls and emails to respondents, manual data entry for mailed responses. This is in addition to the time spent researching employment, wage, benefit and turnover information not known directly by the Department as well as the substantial amount of time reviewing, analyzing and interpreting the data for inclusion in this report. Including preparation of the report itself, the Department estimates office personnel expended over 250 hours over the course of a few months on this endeavor.

This report is based on 1,110 surveys (Manufacturing Machinery Exemption Survey Form 108) mailed June 22, 2017 by the Department of Revenue to manufacturers as identified in its system and from merged databases used previously. This is an increase from the number of surveys sent last year. A cover letter attached to the survey informed those contacted that the survey could be completed by respondents either in paper format and then returned to the Department or the survey could be completed online.

The due date set forth in the mailed survey was August 31, 2017. In 2017, 1,110 surveys were mailed with 550 responses which was an increase from 2016 of 1,055 surveys mailed with 481 responses.

Attachment A

Table 1: Economic Impact of **Sales & Use Tax Exemption Removal** for Manufacturing Machinery

Category (Change from Baseline)	Years					Average 2016-2030
	2016	2017	2018	2019	2020	
Total Employment - Jobs	-30	-52	-71	-85	-94	-88
Manufacturing	-7	-12	-16	-19	-21	-21
Construction	-7	-13	-17	-20	-22	-17
Retail Trade	-4	-6	-8	-9	-10	-9
Mining	-3	-5	-7	-8	-9	-8
Accommodation & Food Services	-1	-2	-3	-4	-4	-4
All Other	-5	-9	-12	-14	-16	-15
Population - Individuals	-11	-25	-41	-58	-76	-100
Wages and Salaries	-\$1.1	-\$2.0	-\$2.7	-\$3.3	-\$3.8	-\$3.7
Personal Income	-\$1.7	-\$3.2	-\$4.7	-\$5.9	-\$6.9	-\$7.4
Disposable Personal Income	-\$1.5	-\$2.8	-\$4.1	-\$5.2	-\$6.1	-\$6.5
Gross Domestic Product	-\$3.8	-\$6.8	-\$9.3	-\$11.3	-\$12.8	-\$13.3
Output	-\$8.4	-\$14.9	-\$20.3	-\$24.5	-\$27.8	-\$29.8
<i>Note: All dollar amounts are expressed as millions of fixed (2016) dollars.</i>						

Table 2: Economic Impact of **Sales & Use Tax Exemption Addition** for Manufacturing Machinery

Category (Change from Baseline)	Years					Average 2016-2030
	2016	2017	2018	2019	2020	
Total Employment - Jobs	30	53	71	85	95	89
Manufacturing	7	12	16	19	21	21
Construction	7	13	17	20	22	17
Retail Trade	4	6	8	9	10	9
Mining	3	5	7	8	9	8
Accommodation & Food Services	1	2	3	4	4	4
All Other	5	9	12	14	16	15
Population - Individuals	11	25	41	58	76	100
Wages and Salaries	\$1.1	\$2.0	\$2.7	\$3.3	\$3.8	\$3.7
Personal Income	\$1.7	\$3.2	\$4.7	\$5.9	\$6.9	\$7.5
Disposable Personal Income	\$1.5	\$2.8	\$4.1	\$5.2	\$6.1	\$6.6
Gross Domestic Product	\$3.8	\$6.9	\$9.4	\$11.3	\$12.9	\$13.4
Output	\$8.4	\$14.9	\$20.3	\$24.6	\$27.9	\$29.9
<i>Note: All dollar amounts are expressed as millions of fixed (2016) dollars.</i>						

Key Definitions

Total Employment comprises estimates of the number of non-farm jobs, full-time plus part-time, by place of work. Full-time and part-time jobs are counted at equal weight. Includes direct, indirect, and induced jobs.

Population reflects mid-year estimates of people, including survivors from the previous year, births, special populations, and three types of migrants (economic, international, and retired).

Wages and Salaries are the monetary remuneration of employees, including the compensation of corporate officers; commissions, tips, and bonuses; voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans; and receipts in kind that represent income. Wages and salaries disbursements are affected by changes in Wage Rate and Employment.

Personal Income is the income that is received by all persons from all sources. It is calculated as the sum of wage and salary disbursements, supplements to wages and salaries, proprietors' income with inventory valuation and capital consumption adjustments, rental income of persons with capital consumption adjustment, personal dividend income, personal interest income, and personal current transfer receipts, less contributions for government social insurance.

Disposable Personal Income equals personal income minus personal taxes.

Gross Domestic Product or **GDP** is the market value of goods and services produced by labor and property. It is often referred to as "value added" and is equal to its gross output (sales or receipts and other operating income, plus inventory change) minus its intermediate inputs (consumption of goods and services purchased from other industries or imported).

Output is the amount of production, including all intermediate goods purchased as well as value-added (compensation and profit). Output can also be thought of as sales or supply or simply price multiplied by quantity ($P \times Q$).

About the REMI PI+ Model

The REMI PI+ model incorporates aspects of four major modeling approaches: **Input-Output**, **General Equilibrium**, **Econometric**, and **Economic Geography**. Each of these methodologies has distinct advantages as well as limitations when used alone. The REMI integrated modeling approach builds on the strengths of each of these approaches.

The REMI model at its core has the inter-industry relationships found in **Input-Output models**. As a result, the industry structure of a particular region is captured within the model, as well as transactions between industries. Changes that affect industry sectors that are highly interconnected to the rest of the economy will often have a greater economic impact than those for industries that are not closely linked to the regional economy.

General Equilibrium is reached when supply and demand are balanced. This tends to occur in the long run, as prices, production, consumption, imports, exports, and other changes occur to stabilize the economic system. For example, if real wages in a region rise relative to the U.S., this will tend to attract economic migrants to the region until relative real wage rates equalize. The general equilibrium properties are necessary to evaluate changes such as tax policies that may have an effect on regional prices and competitiveness.

REMI is sometimes called an “**Econometric model**,” as the underlying equations and responses are estimated using advanced statistical techniques. The estimates are used to quantify the structural relationships in the model. The speed of economic responses is also estimated, since different adjustment periods will result in different policy recommendations and even different economic outcomes.

The **New Economic Geography** features represent the spatial dimension of the economy. Transportation costs and accessibility are important economic determinants of interregional trade and the productivity benefits that occur due to industry clustering and labor market access. Firms benefit having access to a large, specialized labor pool and from having access to specialized intermediate inputs from supplying firms. The productivity and competitiveness benefits of labor and industry concentrations are called agglomeration economies, and are modeled in the economic geography equations.

The primary national, state, and county data source for REMI PI+ is the Bureau of Economic Analysis (BEA) State Personal Income (SPI) and Local Area Personal Income (LAPI) series (which also include employment and total population at both the state and county level). REMI also relies on numerous other data sources including the Bureau of Labor Statistics, Energy Information Administration, Center for Disease Control and Prevention, National Center for Health Statistics, and the Department of Defense. *Source: remi.com.*



Attachment B

Wyoming Business Council Regional Project Assessment System (RPAS)

Manufacturing sales tax incentive economic analysis

The RPAS model has been developed for Wyoming by Applied Economics, LLC of Phoenix, Arizona, www.aeconomics.com. The model identifies measurable effects associated with either a specific activity in a specific location or the value of economic and revenue impacts of existing businesses. The model has multipliers for 66 NAICS-based industry types based on Minnesota IMPLAN group data. It provides the value of additional output for job creation in addition to the direct jobs created and measures direct and indirect property and sales tax benefits to local and state revenues.

- **Jobs, wages and output:**

- The tax exemption covers NAICS Sectors 31-33
- In Wyoming, this represents over 9,000 jobs.
- The economic output from these direct wages is significant. The numbers below do not include indirect economic output of suppliers.

Year	Workforce	Average Wage	Total Direct Wages	Output from Employment Income
2010	8,700	60,037	\$ 522,320,000	\$ 5,562,869,804
2011	9,100	59,577	\$ 542,150,000	\$ 5,774,065,447
2012	9,300	60,488	\$ 562,535,000	\$ 5,991,172,011
2013	9,500	64,000	\$ 608,000,000	\$ 6,475,388,346
2014	9,800	66,163	\$ 648,399,574	\$ 6,905,656,324
2015	9,700	71,285	\$ 691,459,880	\$ 7,364,261,922
2016	9,200	64,223	\$ 590,855,639	\$ 6,292,795,590
Total			\$ 4,165,720,093	\$ 44,366,209,444

* The year, workforce numbers and average wage are from data available at Department of Workforce Services, Research and Planning Labor Market Information, Quarterly Census of Employment and Wages.

* Output represents the total economic activity generated. It is derived from employment income and calculated by the WBC economic impact model. The inputs are direct employment numbers and average wages. The model then calculates additional multipliers of the wages rolling over in the community.

- **Real estate market valuation for tax assessment purpose**
 - The market valuation for real property of manufacturers is significant. Below are a few examples.

	2017	2016	2015	2014	2013	2012	2011
Holly Frontier	\$ 502,129,876	\$ 405,700,000	\$ 400,000,000	\$ 390,000,000	\$ 380,000,000	\$ 370,000,000	\$ 360,000,000
Puma Steel	\$ 2,113,401	\$ 2,150,000	\$ 2,150,000	\$ 2,150,000	\$ 2,150,000	\$ 2,150,000	\$ 2,150,000
Gater Industries	\$ 684,868	\$ 675,000	\$ 675,000	\$ 675,000	\$ 675,000	\$ 675,000	\$ 675,000
Vacutech LLC	\$ 1,616,917	\$ 1,580,600	\$ 1,600,000	\$ 1,620,000	\$ 1,000,000	\$ 200,000	-
Emit Technologies	\$ 1,073,065	\$ 434,000	\$ 434,000	\$ 434,000	\$ 434,000	\$ 434,000	\$ 434,000
Blacktooth Brewing	\$ 1,239,428	\$ 400,000	\$ 600,000	\$ 600,000	\$ 500,000	\$ 600,000	\$ 300,000
Dyno Nobel	\$ 252,920,577	\$ 240,000,000	\$ 238,500,642	\$ 236,725,300	\$ 234,652,350	\$ 233,500,625	\$ 232,563,729
Whitcom/Grobet	\$ 331,228	\$ 268,277	\$ 270,416	\$ 270,000	\$ 270,000	\$ 270,000	\$ 270,000
Magpul	\$ 12,248,479	\$ 1,176,487	\$ 382,264	-	-	-	-
Jebro	\$ 2,151,846	\$ 255,440	\$ 253,409	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Midwest Pipe	\$ 5,910,021	\$ 557,970	\$ 592,801	\$ 590,000	\$ 590,000	\$ 590,000	\$ 590,000
Searing	\$ 15,725,813	\$ 1,748,646	\$ 1,704,512	\$ 1,000,000	\$ 500,000	-	-
Fremont Beverage	\$ 5,044,580	\$ 3,858,494	\$ 4,271,533	\$ 4,392,469	\$ 4,446,071	\$ 4,227,598	\$ 4,198,831
Admiral Beverage	-	\$ 113,270	\$ 188,086	\$ 186,089	\$ 186,669	\$ 187,557	\$ 183,104
Wyoming Machinery	\$ 46,870,003	\$ 47,520,584	\$ 46,117,123	\$ 43,560,648	\$ 45,420,904	\$ 41,037,650	\$ 41,894,973
Power Service INC	\$ 2,906,605	\$ 2,906,605	\$ 2,910,617	\$ 279,935	\$ 271,141	\$ 265,625	\$ 257,728
Neiman Enterprises	\$ 2,478,338	\$ 3,221,121	\$ 5,705,294	\$ 5,303,697	\$ 6,004,187	\$ 5,786,436	\$ 7,802,692
Redi Services LLC	\$ 1,138,316	\$ 878,623	\$ 831,990	\$ 560,163	\$ 620,392	\$ 632,178	\$ 679,279
L&H Industrial INC	\$ 8,651,129	\$ 18,469,751	\$ 18,324,122	\$ 17,563,966	\$ 16,654,796	\$ 15,726,518	\$ 13,023,931
Y-TEX	\$ 3,096,161	\$ 3,048,370	\$ 3,136,741	\$ 3,081,015	\$ 3,072,000	-	-
Saratoga Forest Management	\$ 233,595	\$ 44,588	\$ 19,443	\$ 19,260	\$ 18,779	\$ 18,404	\$ 17,954
Eagle Bronze	\$ 435,770	\$ 447,691	\$ 449,450	\$ 692,875	\$ 685,743	\$ 660,404	\$ 635,012
SGL Carbon Fiber	\$ 24,281,417	\$ 25,193,717	\$ 26,479,531	\$ 27,778,826	\$ 32,219,514	\$ 31,636,644	\$ 31,503,838
Wyoming Sugar Company	\$ 7,602,282	\$ 6,037,074	\$ 5,420,599	\$ 3,438,298	\$ 2,388,949	\$ 1,031,439	\$ 995,433
Sidney and Western Sugar	\$ 7,006,652	\$ 5,467,495	\$ 5,447,135	\$ 1,713,085	\$ 4,790,038	\$ 3,935,026	\$ 2,357,404
Crown Cork and Seal	\$ 3,568,720	\$ 3,551,922	\$ 3,608,506	\$ 3,506,664	\$ 3,569,584	\$ 3,381,714	\$ 3,283,923
Simplot Phosphates	\$ 515,274,004	\$ 335,888	\$ 315,993	\$ 284,467	\$ 284,485	\$ 218,680	\$ 118,211
JR Simplot	\$ 841,495	\$ 342,232	\$ 319,768	\$ 375,503	\$ 362,502	\$ 318,029	\$ 313,851
Gill Window Company	\$ 1,623,427	\$ 1,655,410	\$ 1,525,585	\$ 1,521,581	\$ 1,472,549	\$ 1,429,041	\$ 1,279,328
Totals	\$ 1,429,198,013	\$ 778,039,254	\$ 772,234,562	\$ 748,572,842	\$ 743,489,655	\$ 719,162,568	\$ 705,778,223

Source: Wyoming State Parcel Viewer (derived from county assessor information)

Year	Annual Capital Expenditures	Local Real Property Tax	Local Personal Property Tax	Local Sales Taxes	Total Local Taxes	State Sales Tax	Total State and Local Taxes	Unrealized Revenue from Sales Taxes	Net Return to State and Local Governments
2010	\$ 70,608,678	\$ 34,937,469	\$ 1,223,872	\$ 4,213,800	\$ 40,375,141	\$ 11,866,309	\$ 52,241,450	\$ 3,742,260	\$ 48,499,190
2011	\$ 36,713,988	\$ 41,688,319	\$ 1,488,550	\$ 4,373,778	\$ 47,550,647	\$ 12,316,817	\$ 59,867,464	\$ 1,956,886	\$ 57,910,578
2012	\$ 177,352,799	\$ 48,441,598	\$ 2,752,378	\$ 4,538,233	\$ 55,732,209	\$ 12,779,932	\$ 68,512,141	\$ 9,435,169	\$ 59,076,972
2013	\$ 59,640,152	\$ 56,216,906	\$ 3,119,350	\$ 4,905,021	\$ 64,241,277	\$ 13,812,828	\$ 78,054,105	\$ 3,196,712	\$ 74,857,393
2014	\$ 342,064,174	\$ 64,080,227	\$ 5,493,729	\$ 5,230,943	\$ 74,804,899	\$ 14,730,644	\$ 89,535,543	\$ 18,471,465	\$ 71,064,078
2015	\$ 172,620,774	\$ 71,678,218	\$ 6,493,615	\$ 5,578,331	\$ 83,750,164	\$ 15,708,908	\$ 99,459,072	\$ 9,322,743	\$ 90,136,329
2016	\$ 130,815,075	\$ 78,265,858	\$ 6,883,220	\$ 4,766,709	\$ 89,915,787	\$ 13,423,334	\$ 103,339,121	\$ 7,037,851	\$ 96,301,270
Totals	\$ 989,815,640	\$ 395,308,595	\$ 27,454,714	\$ 33,606,815	\$ 456,370,124	\$ 94,638,772	\$ 551,008,896	\$ 53,163,086	\$ 497,845,810

* Approximately half of all property taxes support local school mill levies

* Manufacturing generates significant property tax and indirect sales tax

* Direct and indirect property and sales tax is calculated by the WBC economic impact model.

The inputs are assessed property valuation and equipment capital expenditures. The model then calculates the direct property and sales tax paid to local and state. It also creates multipliers for

direct employees and indirect employment increase in their property and sales tax spending. The WBC has only entered property assessed valuation for 29 of @ 1,000 manufacturers in the state so the amount paid in property tax is estimated to be very understated.

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- Wyoming Department of Employment, Research & Planning (2016). *Wyoming Turnover Statistics, 1992Q1-2016Q2*. Total, All Industries and Manufacturing. Downloaded data from <http://doe.state.wy.us/lmi/turnover.htm> 9/27/17
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- Wyoming Department of Revenue, Education & Taxability (2016). *The Effects of the Sales and Use Tax Exemption for Manufacturing Machinery, Eleventh Edition*. Cheyenne, WY.

Appendices

Appendix A: Manufacturing Machinery Survey Form 108 Cover Letter

Appendix B: Manufacturing Machinery Survey Form 108

Appendix A: Manufacturing Machinery Survey Form 108 Cover Letter



State of Wyoming DEPARTMENT OF REVENUE

MATTHEW H. MEAD, Governor
DANIEL W. NOBLE, Director

122 West 25th Street, 2-West, Cheyenne, Wyoming 82002-0110
Telephone:(307) 777-7961 • Web:<http://revenue.wyo.gov> • E-mail:dor@wyo.gov

Administration Fax (307)777-7722 • Property Tax Division Fax (307)777-7527 • Excise Division Fax (307)777-3632 • Mineral Division Fax (307)777-7949 • Liquor Division Fax (307)777-6235

Dear Manufacturer:

Effective July 1, 2004, the Wyoming Legislature passed a sales/use tax exemption designed to benefit and diversify Wyoming's manufacturing sector. This exemption applies to qualifying machinery, materials used to construct the machinery, specialized tools and repair parts. This survey has been sent to you because the Department of Revenue has received information that you are a manufacturer, and you are therefore statutorily required to respond to the survey. (W.S. 39-15-105(b))

To qualify for the exemption, a manufacturer must satisfy two requirements. First, the manufacturer must be classified as a business primarily engaged in activities categorized under the North American Industry Classification System (NAICS) manufacturing sector. Second, the machinery must generally be capitalized using the IRS's rules regarding depreciable machinery.

Accompanying this letter is Form 108. It must be completed and returned to the Department of Revenue no later than August 31, 2017. If you are not a manufacturer, please provide details about your business so we can correct our database. If you are a manufacturer, but did not make any qualifying purchases, please report zero purchases.

We have also provided an online form of the survey, which will save you the cost of a stamp. To access this survey, please visit the Department of Revenue website at <http://revenue.wyo.gov>. On the upper left corner under, "What's New" is a link to the 2017 Manufacturers Machinery Survey. The link may be accessed from there, or by going to <https://www.surveymonkey.com/r/WYO2017>

Examples:

Quilters buy fabric, thread and batting, sew it together and "manufacture" a quilt. (NAICS code 314129) Someone who does embroidering is a manufacturer. (NAICS code 314999) A saddle maker buys the leather, cuts it, tools it, and puts it together to manufacture a saddle. (NAICS code 314999)

Please contact the department with any questions you may have at (307) 777-2459 or by e-mail at DOR_taxability@wyo.gov Thank you for your time and attention to this matter.

Sincerely,

Kim Lovett, Administrator
Excise Tax Division

Appendix B: Manufacturing Machinery Survey Form 108



State of Wyoming
DEPARTMENT OF REVENUE

Manufacturer's Sales/Use Tax Return Form 108
 Manufacturing Machinery Exemption

Per Wyoming Statutes Titles 39-15-105 & 39-16-105, this form must be completed and returned by August 31, 2017

Please return form to:
 Revenue, Excise Tax Dept.
 122 West 25th Street, 2-West
 Cheyenne, Wyoming 82002

Fax: 307-777-3632
 Email:
 DOR_taxability@wyo.gov

Phone: 307-777-2459
 Web: <http://revenue.wyo.gov>

This form may also be completed online by going to: <https://www.surveymonkey.com/r/WYO2017>

Company Name:		DBA Name: (Doing Business As)	
Address:			
City:		State:	Zip:
Email Address:		Phone:	
WY License Number or RID (if applicable)			

NAICS code(s), four or more digits, i.e. 3112 : _____

The North American Industrial Classification System (NAICS) is the standard used by Federal and state agencies to organize establishments into industries on the basis of the activity in which they are primarily engaged. To find your NAICS Code, if unknown, please visit: <http://www.census.gov/eos/www/naics/>. If your NAICS code does not fall between 3111 and 3399, stop here and sign affidavit at bottom.

If you are unsure of your NAICS code, please provide a detailed description of the process your business uses to produce products. (Even if you hand-produce individual items or modify other products, you may be categorized as a manufacturer under NAICS).

Please provide the square footage of your facility to include; office space, manufacturing area and any storage facilities. _____

Please provide the size of your lot or acreage. _____

Purchases or leases of machinery (including machine tools and parts thereof or materials purchased for the repair/construction of machinery) are exempt from state sales/use tax when the machinery will be used directly and predominantly in manufacturing in Wyoming, subject to stipulations outlined in W.S. 39-15-105 and W.S. 39-16-105.*

Amount of Exempt Purchases for Machinery, Tools, Parts, and Machinery Materials (as per W.S. 39-15-105 and W.S. 39-16-105) for the period of July 1st, 2016 through June 30th, 2017. (If zero, please enter \$0.00)	\$ _____ <small>(See *Definitions on back for qualifications)</small>
---	--

I _____ (Authorized agent of company), certify that the company named on this form is entitled to the sales and use tax exemption on purchases of machinery or machine tools to be used in manufacturing, as per W.S. 39-15-105 and 39-16-105. I further certify that the Company Information, NAICS Information, and Exempt Purchases Information provided above is true and accurate to the best of my knowledge.

Signature _____ Title _____ Date _____

Information obtained is confidential, and will only be distributed in aggregate form.