

Northwestern Indiana Regional Planning Commission

Chemicals and Chemical-based Products Cluster Drill-down

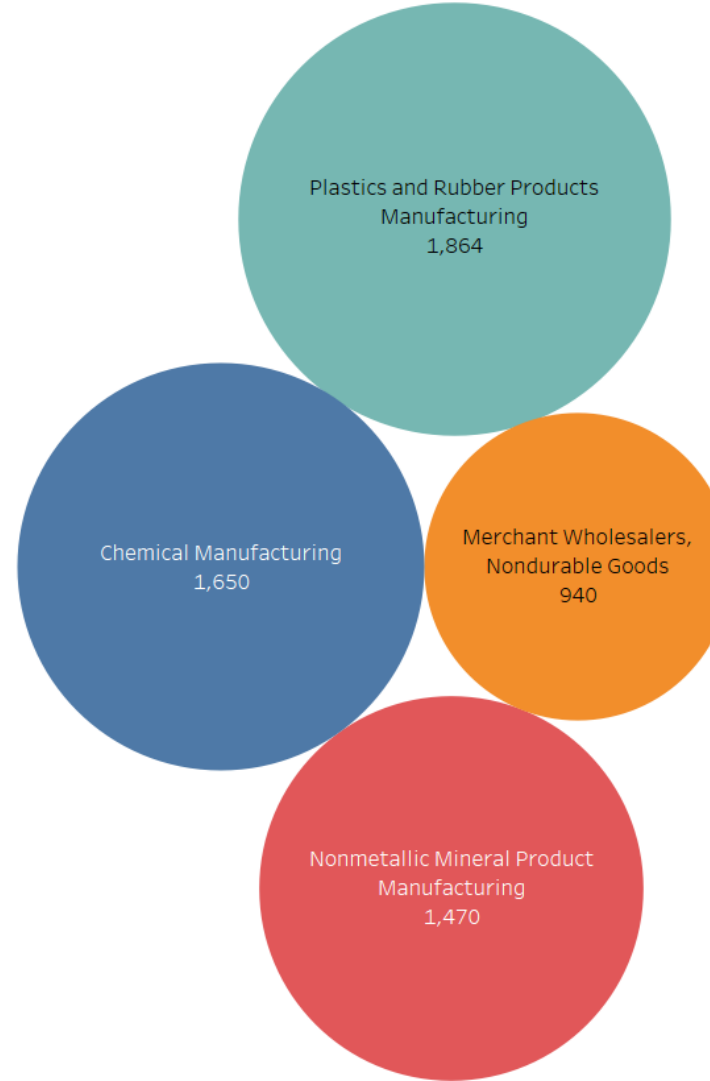
Section 01



Economic indicators

Economic Indicators	Northwestern Indiana Regional Planning Commission (QCEW, non-QCEW, self-employed and proprietors)
Jobs 2023 (% of total jobs)	5,991 (1.5%)
Job change 2018-2023 (#, %)	75 (+1%)
Average total earnings per job 2023	\$100,551
Cost of Living (COL)	93.8
Est. Establishment 2023 (% of total est.)	215 (1.2%)
GRP (Gross Regional Product) 2023	\$ 2.3 Billion
GRP per job 2023 (productivity)	\$384,343
Total purchases 2023	\$1.8 Billion
<i>Within region</i>	37.2%
<i>Imported from outside of region & state</i>	62.8%
Number of sectors in chemicals and chemical-based cluster	68

NAICS-3 digit	Description	Jobs 2023
325	Chemical Manufacturing	1,650
326	Plastics and Rubber Products Manufacturing	1,864
327	Nonmetallic Mineral Product Manufacturing	1,470
424	Merchant Wholesalers, Nondurable Goods	940



NAICS 3-digit sectors

- Chemical Manufacturing
- Merchant Wholesalers, Nondurable Goods
- Nonmetallic Mineral Product Manufacturing
- Plastics and Rubber Products Manufacturing

Section 02



Competitiveness, economic leakages and Workforce

Regional Job Growth:

Three Key Components of the Shift-Share Analysis

Expected Change

The sum of the industrial mix and the national growth effects



National Growth Effect

Explains how much of the regional industry's growth is explained by the overall growth of the national economy

Industrial Mix Effect

Share of regional industry growth explained by the growth of the specific industry sector at the national level

Note:

The calculations ensure no double counting of job change effects from national to regional levels

Regional Competitive Effect

Explains how much of the change in a given industry is due to some unique competitive advantage that the region possesses



Shift-Share Analysis (Regional Performance) by Top Industry Sectors

Industries	Jobs 2023	National Trend 2018-2023 (A)	Industry Trend 2018-2023 (B)	Cumulative Expected Growth (C=A+B)	Actual Job Growth 2018-2023 (D)	Regional Performance 2018-2023 (D-C)
Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	760	57	-118	-60	102	↑ 162
All Other Plastics Product Manufacturing	570	50	-52	-2	0	↑ 2
Clay Building Material and Refractories Manufacturing	557	42	-82	-41	80	↑ 121
Other Chemical and Allied Products Merchant Wholesalers	497	35	-22	12	101	↑ 89
Pharmaceutical Preparation Manufacturing	336	6	2	8	267	↑ 258
Gypsum Product Manufacturing	285	22	-28	-6	31	↑ 37
Ground or Treated Mineral and Earth Manufacturing	280	29	-5	24	-51	-75
Other Basic Inorganic Chemical Manufacturing	267	27	-16	11	-41	-52
Industrial Gas Manufacturing	250	26	10	35	-43	-79
Petroleum Bulk Stations and Terminals	246	22	-10	12	-4	-15
Plastics Plumbing Fixture Manufacturing	176	18	-4	14	-34	-48
Plastics Material and Resin Manufacturing	175	15	-9	5	7	↑ 1
Plastics Bottle Manufacturing	151	12	-6	6	16	↑ 10
Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)	143	14	-17	-3	-13	-9
All Other Basic Organic Chemical Manufacturing	139	5	-1	4	83	↑ 79

Note: Upward arrow (↑) indicates regional competitiveness.

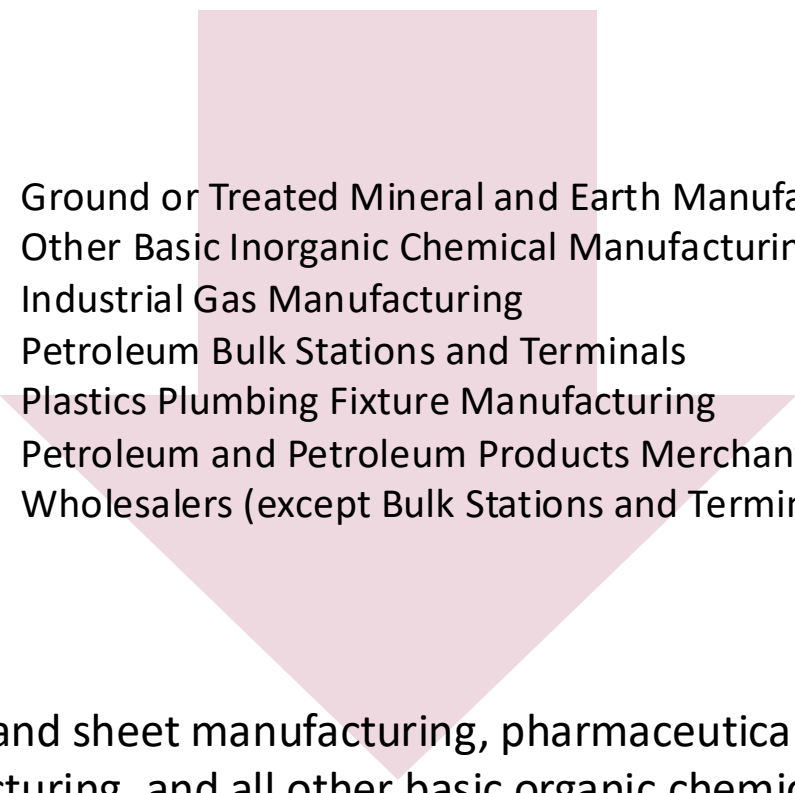
Shift-Share Analysis 2023

Industries that Outperformed

- 
- Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing
 - All Other Plastics Product Manufacturing
 - Clay Building Material and Refractories Manufacturing
 - Other Chemical and Allied Products Merchant Wholesalers
 - Pharmaceutical Preparation Manufacturing
 - Gypsum Product Manufacturing
 - Plastics Material and Resin Manufacturing
 - Plastics Bottle Manufacturing
 - All Other Basic Organic Chemical Manufacturing

- A few strong industry sectors include unlaminated plastics film and sheet manufacturing, pharmaceutical preparation manufacturing, clay building materials and refractories manufacturing, and all other basic organic chemical manufacturing.

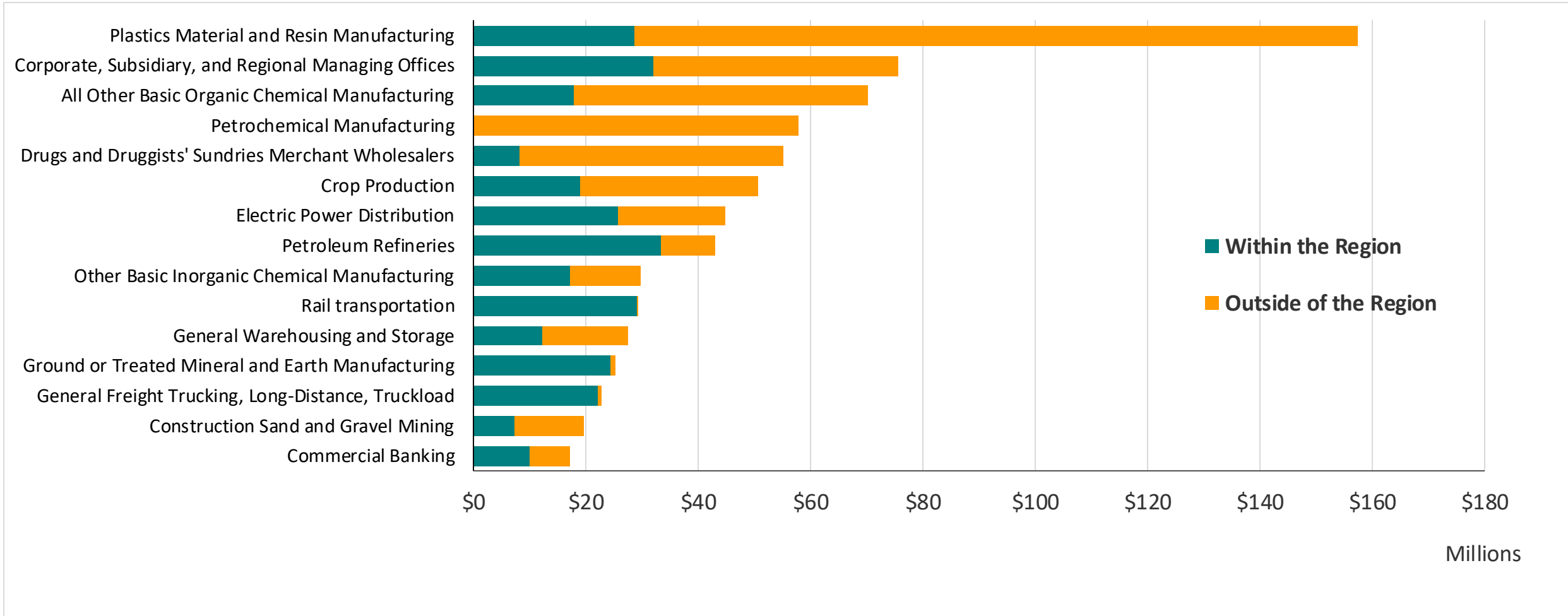
Industries that Underperformed

- 
- Ground or Treated Mineral and Earth Manufacturing
 - Other Basic Inorganic Chemical Manufacturing
 - Industrial Gas Manufacturing
 - Petroleum Bulk Stations and Terminals
 - Plastics Plumbing Fixture Manufacturing
 - Petroleum and Petroleum Products Merchant Wholesalers (except Bulk Stations and Terminals)

Leakage analysis: Top 15 Industries by Inputs

Industries	Estimated Input (\$ Million), 2023	% In-Region	% Out of Region
Plastics Material and Resin Manufacturing	\$157.4	18.2%	81.8%
Corporate, Subsidiary, and Regional Managing Offices	\$75.6	42.2%	57.8%
All Other Basic Organic Chemical Manufacturing	\$70.1	25.3%	74.7%
Petrochemical Manufacturing	\$57.9	0.0%	100.0%
Drugs and Druggists' Sundries Merchant Wholesalers	\$55.2	14.6%	85.4%
Crop Production	\$50.6	37.5%	62.5%
Electric Power Distribution	\$44.8	57.6%	42.4%
Petroleum Refineries	\$43.0	77.4%	22.6%
Other Basic Inorganic Chemical Manufacturing	\$29.8	57.7%	42.3%
Rail transportation	\$29.3	99.4%	0.6%
General Warehousing and Storage	\$27.4	44.3%	55.7%
Ground or Treated Mineral and Earth Manufacturing	\$25.3	96.6%	3.4%
General Freight Trucking, Long-Distance, Truckload	\$22.8	96.8%	3.2%
Construction Sand and Gravel Mining	\$19.5	36.9%	63.1%
Commercial Banking	\$17.3	57.2%	42.8%

Leakage analysis 2023



- Plastics material and resin mfg. had \$129 million economic leakage in 2023. All other basic organic chemical mfg. had \$52 million leakages in 2023.

**Plastics
material and
resin mfg.**



**All other basic
organic
chemical mfg.**

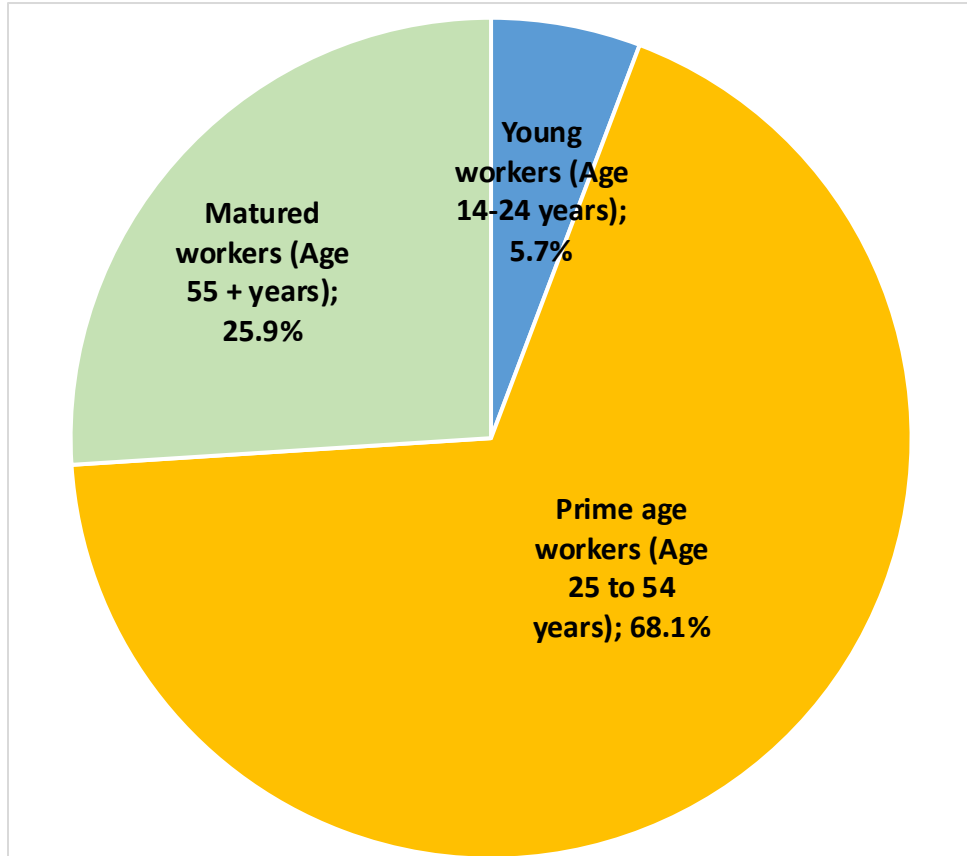


**Pharmaceutical
preparation
mfg.**



Occupations	Jobs 2023	% Change 2018-2023	% of Total Jobs in Cluster 2023	Median Hour Earnings	Entry level Education	Automation
Miscellaneous Assemblers and Fabricators	312	10%	5.2%	\$19.54	High school diploma or equivalent	112.6
Heavy and Tractor-Trailer Truck Drivers	277	5%	4.6%	\$28.66	Postsecondary nondegree award	110.1
Chemical Equipment Operators and Tenders	264	374%	4.4%	\$34.17	High school diploma or equivalent	110.4
Industrial Machinery Mechanics	255	11%	4.3%	\$37.37	High school diploma or equivalent	109.8
Packaging and Filling Machine Operators and Tenders	238	60%	4.0%	\$20.57	High school diploma or equivalent	116.9
First-Line Supervisors of Production and Operating Workers	224	10%	3.7%	\$31.55	High school diploma or equivalent	88.6
Industrial Truck and Tractor Operators	215	173%	3.6%	\$21.54	No formal educational credential	119.5
Laborers and Freight, Stock, and Material Movers, Hand	212	12%	3.5%	\$18.00	No formal educational credential	117.2
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	184	-27%	3.1%	\$33.77	High school diploma or equivalent	91.5
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	181	157%	3.0%	\$20.32	High school diploma or equivalent	116.6
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	162	-24%	2.7%	\$22.36	High school diploma or equivalent	117.3
Cutting and Slicing Machine Setters, Operators, and Tenders	143	383%	2.4%	\$24.61	High school diploma or equivalent	116.6
Inspectors, Testers, Sorters, Samplers, and Weighers	141	65%	2.4%	\$23.55	High school diploma or equivalent	106.1
Chemical Plant and System Operators	140	7%	2.3%	\$24.30	High school diploma or equivalent	101.7
Shipping, Receiving, and Inventory Clerks	136	52%	2.3%	\$20.64	High school diploma or equivalent	109.1

Worker demographics 2023



- Hispanic workers (13.7%)
- Black or African-American workers (9.9%)
- Asian workers (1.2%)
- White workers (74.0%)
- American Indian or Alaska Native (0.1%)
- Others (1.1%)

- Male workers (78%)
- Female workers (22%)

- Slightly more than one in four workers (25.9%) are matured (aged 55 years or more) workers in NIRPC in this cluster. At the state level (Indiana), the proportion of matured workers is 26%, and female workers is 33%.

Section 03

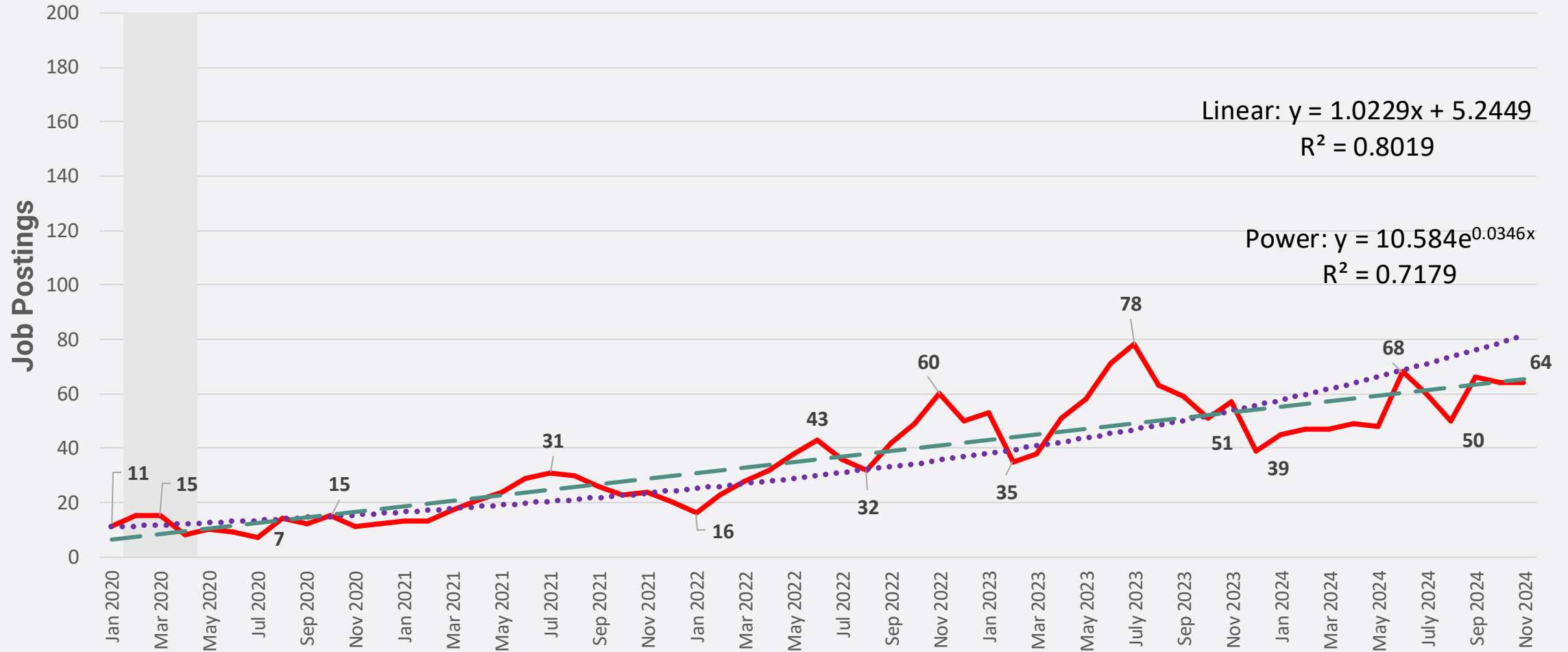


Jobs Postings (Labor demand)

Chemical Cluster Jobs Postings Overview

- From January 2020 to November 2024, a total of 3,638 unique jobs postings happened in industries within the chemical cluster. The average monthly unique jobs postings was 36 per month.
- The median posting duration was 28 days. Posting intensity was 3:1.
- Percent change between **January 2020 and November 2024** was **+482%**.
- 188 employers in Chemical cluster competed for talent during this period.
- Hourly median advertised salary was \$25.91 per hour (23% postings included salaries)
- Job postings were advertised in 50 different industries within NIRPC Region. **Industrial Gas Manufacturing, Pharmaceutical Preparation Manufacturing, Paint and Coating Manufacturing, Other Chemical and Allied Products Merchant Wholesalers, and Plastics Packaging Film and Sheet (including Laminated) Manufacturing** had more than 200 unique jobs postings during **January 2020 and November 2024**.
- Top companies in Chemicals cluster posting jobs include Linde, Praxair, Grifols, Monosol, Sherwin-Williams, Bausch Health, and Then Estée Lauder Companies.

Chemical Cluster: Job Postings Time Series (Jan 2020 to November 2024)



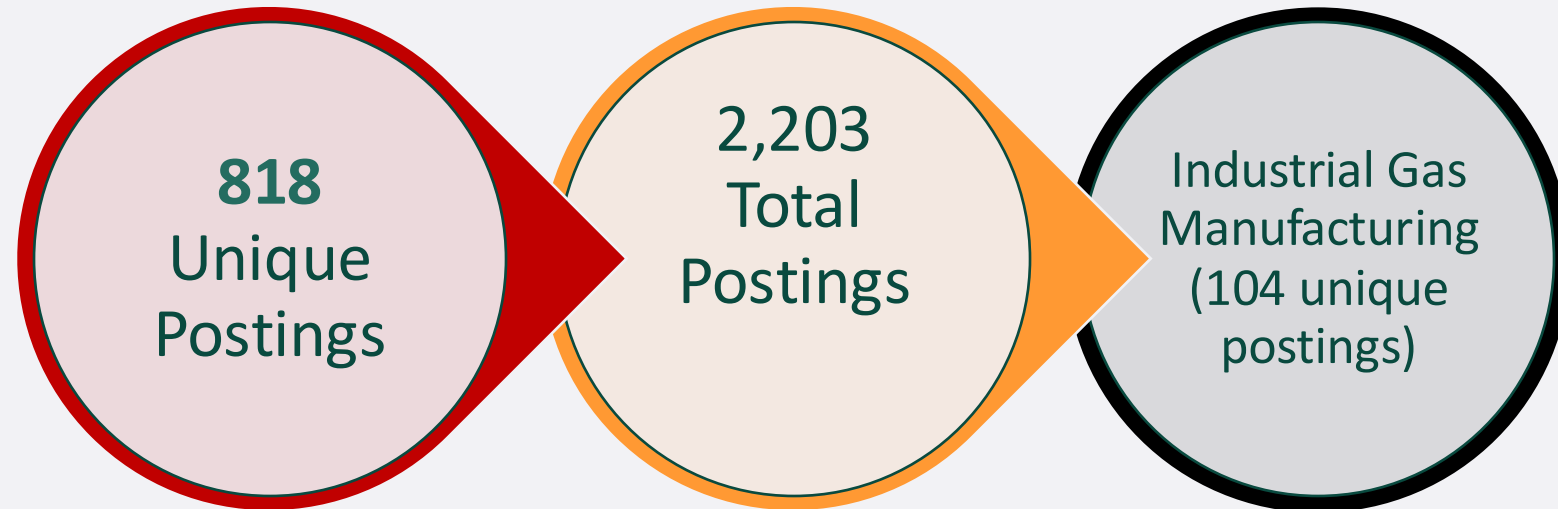
- Unique jobs postings are not seasonally adjusted and hence may show seasonal effects. Jobs postings are in a recovery and growth mode following the COVID-19 induced recession (February 2020 to April 2020).

Chemical Cluster Latest Unique Jobs Postings

**Latest 1-Month
Unique Jobs
Postings
Oct 2024 - Nov
2024**



**Latest 12-Month
Unique Jobs
Postings
Nov 2023 - Nov
2024**



- Industrial gas manufacturing had negative growth in jobs and competitive shift from 2018-2023. The labor demand is positive in 2024.

Top Companies Postings

1. Linde
2. Praxair
3. Grifols
4. Monosol
5. Sherwin-Williams
6. Bausch Health
7. The Estée Lauder Companies
8. Bridgestone Corporation
9. Sun Chemical Co. Ltd
10. Bulkmatic Transport
11. Aquestive Therapeutics
12. Airgas
13. American Renolit Corporation
14. AbbVie

Top Industries

1. Industrial Gas Manufacturing
2. Pharmaceutical Preparation Manufacturing
3. Paint and Coating Manufacturing
4. Other Chemical and Allied Products Merchant Wholesalers
5. Plastics Packaging Film and Sheet (including Laminated) Manufacturing
6. All Other Plastics Product Manufacturing
7. Plastics Material and Resin Manufacturing
8. All Other Misc. Chemical Product and Preparation Mfg.
9. Other Basic Inorganic Chemical Manufacturing
10. Petroleum Bulk Stations and Terminals
11. Toilet Preparation Manufacturing
12. Clay Building Material and Refractories Manufacturing
13. Tire Manufacturing (except Retreading)

- Farmers, farm hand and manual worker jobs advertisements are based on analog and not online services.

Section 04



Economic Outlook

U.S. Industry Economic Outlook

- **Contract Pharmaceutical Research Services** in the U.S. had \$20.9 bn revenue with a profit margin of 16.3% in 2023. It is a vital component for pharmaceutical companies to reduce the costs. Companies face US FDA regulatory environment, use specialized knowledge, and the industry is still in the growth stage.
- **Generic Pharmaceutical Manufacturing** in the U.S. had \$50.3 bn revenue with a profit margin of 6% in 2023. This industry has been steadily expanding in the U.S. Companies face US FDA regulatory environment, high competition, but high revenue per employee.
- There is opportunity to connect with the **Heartland Bioworks** (Indiana's TechHub). Also, specific NSF Engines are focused on enabling pharmaceutical manufacturing within the U.S., to reduce high levels of imports.
- **Organic Chemical Manufacturing** in the U.S. had \$160 bn revenue with a profit margin of 4% in 2023. Companies face various federal, state and local and environmental regulations.
- **Plastics Material and Resin Manufacturing** in the U.S. had \$103.9 bn revenue with a profit margin of 6.1% in 2023. Companies face stiff environmental regulations and tariffs can impact exports.

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