

# Toxics Release Inventory at New York State Pollution Prevention Institute (NYSP2I)

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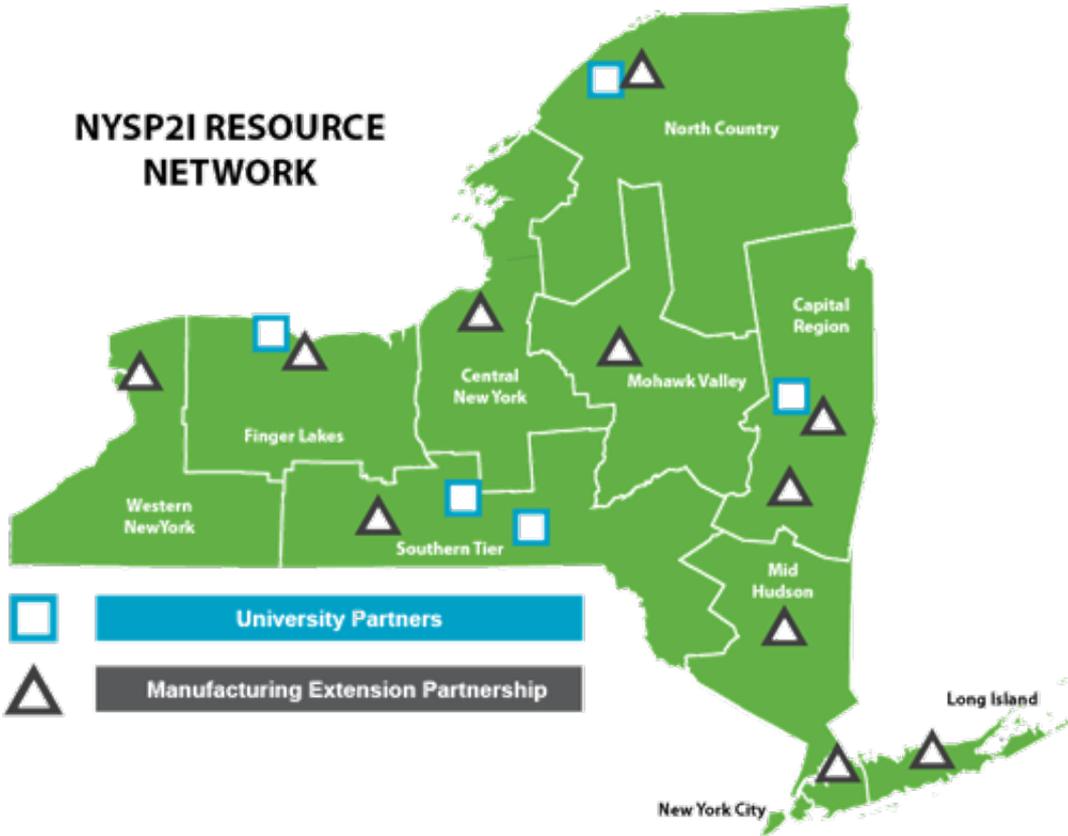
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# NYS Pollution Prevention Institute

- Headquartered at Rochester Institute of Technology (RIT)
- Established in 2008
- \$4 million in annual NYS funding administered through the NYS Department of Environmental Conservation
  - Additional funding from US Environmental Protection Agency (EPA) as awarded
- Mission to provide cost-effective, actionable solutions for NY businesses to become more resource efficient and sustainable in order to make NYS a national model for pollution prevention

## NYSP2I RESOURCE NETWORK



Department of Environmental Conservation



# Technical Assistance for NYS Companies

- Focus areas include:
  - Sustainable Manufacturing Assessments
  - Management Systems (zero waste, International Organization for Standardization (ISO) readiness, etc.)
  - Technology Commercialization
  - Food Waste Diversion
  - Outreach & Education
- Short term projects done by professional staff
- NYSP2I funding offsets most of the project cost to the organization
  - Expenses are non-capital expenses
  - RIT's engineering, technical and project management services

# NYSP2I Company/Sector Prioritization Objectives

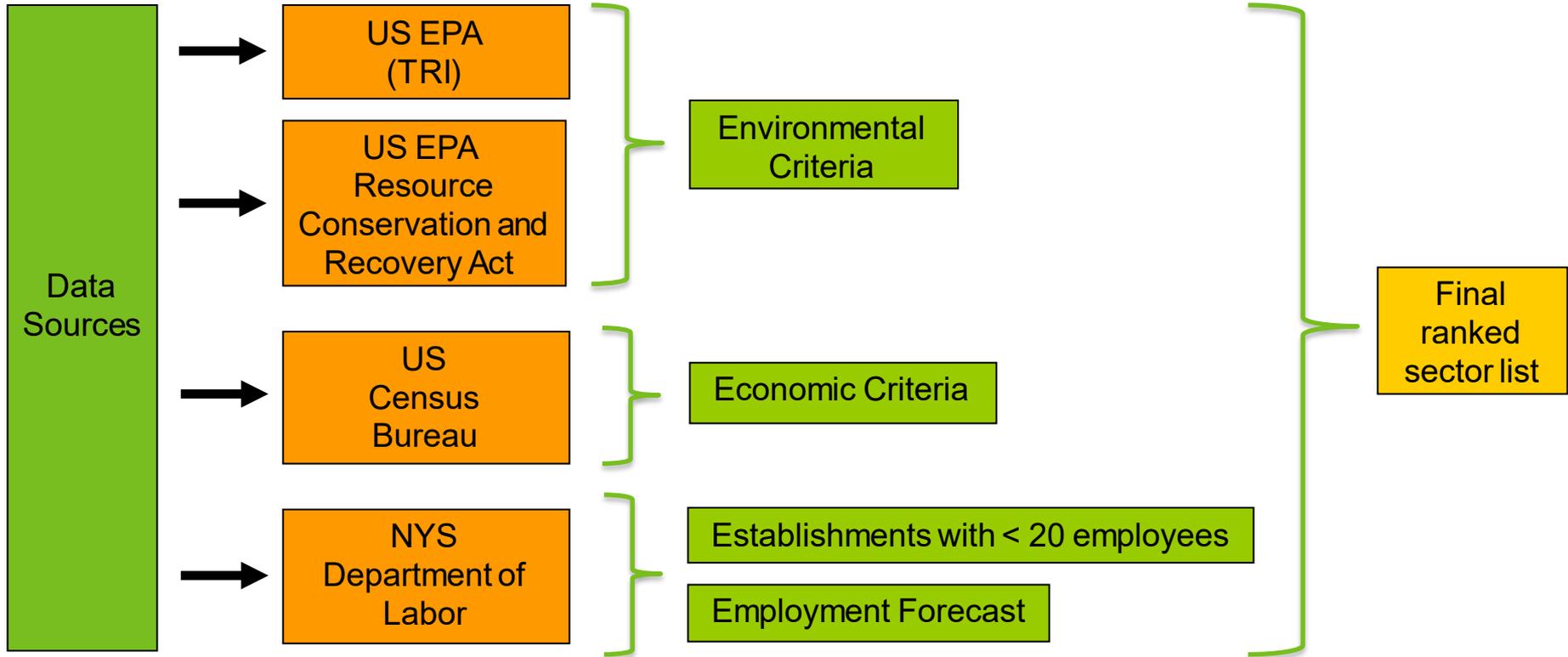
- Identification of high priority sectors that are:
  1. Significant contributors to the New York State economy
  2. Generate large quantities of toxic, hazardous and non-hazardous wastes
- Ensure optimal use of state funds and NYSP2I resources
- Ensure NYSP2I has the broadest impact possible on industry in NY State
- Utilize quantitative environmental and economic indicators for prioritization

# North American Industry Classification System (NAICS) Manufacturing (Mfg.) Sectors

NAICS Code	Description
311	Food Mfg.
312	Beverage and Tobacco Mfg.
313	Textile Mills
314	Textile Product Mills
315	Apparel Mfg.
316	Leather
321	Wood Products
322	Paper
323	Printing and Publishing
324	Petroleum
325	Chemicals

NAICS Code	Description
326	Plastics and Rubber
327	Stone/Clay/Glass
331	Primary Metals
332	Fabricated Metals
333	Machinery
334	Computers/Electronics Mfg.
335	Electrical Equipment
336	Transportation Equipment
337	Furniture
339	Miscellaneous Mfg.

# Methodology: Structure and Data Sources



# Example of TRI “Total Releases” Criteria Calculation

	Description	Total Releases (lbs)	Combined 3273 & 327	Normalization
1	NAICS 311/312 - Food/Beverages/Tobacco	2,642,879.85	2,642,879.85	0.82588
2	NAICS 313/314 - Textiles	45,292.00	45,292.00	0.01415
3	NAICS 316 - Leather	250	250	0.00008
4	NAICS 321 - Wood Products	606	606	0.00019
5	NAICS 322 - Paper	1,955,615.28	1,955,615.28	0.61111
6	NAICS 323/51 - Printing and Publishing	30,895.92	30,895.92	0.00965
7	NAICS 324 - Petroleum	157,198.96	157,198.96	0.04912
8	NAICS 325 - Chemicals	3,200,078.11	3,200,078.11	<b>Max.</b> 1.00000
9	NAICS 326 - Plastics and Rubber	550,484.87	550,484.87	0.17202
10	NAICS 327 - Stone/Clay/Glass	376,027.66	685,459.57	0.21420
11	NAICS 3273 - Cement	309,431.91	0.00	0.00000
12	NAICS 331 - Primary Metals	2,568,659.43	2,568,659.43	0.80269
13	NAICS 332 - Fabricated Metals	560,621.24	560,621.24	0.17519
14	NAICS 333 - Machinery	129,546.41	129,546.41	0.04048
15	NAICS 334 - Computers/Electronics Products	1,466,334.39	1,466,334.39	0.45822
16	NAICS 335 - Electrical Equipment	279,936.62	279,936.62	0.08748
17	NAICS 336 - Transportation Equipment	44,097.33	44,097.33	0.01378
18	NAICS 337 - Furniture	24,624.10	24,624.10	0.00769
19	NAICS 339 - Miscellaneous Manufacturing	163,886.51	163,886.51	0.05121
		<b>2,642,879.85</b>	<b>3,200,078.11</b>	<b>= .82588</b>

# Environmental Data by Industry

NAICS	Description	EPA				RCRA	Subtotal
		Total Releases	Total Production Related Waste	Total Carc Releases	Total PBT Releases	Hazardous Waste	
311/312	Food/Beverages/Tobacco	0.8259	0.2013	0.0009	0.0007	0.0002	1.0290
313/314	Textiles	0.0142	0.0082	0.0002	0.0000	0.0075	0.0301
316	Leather	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001
321	Wood Products	0.0002	0.0006	0.0001	0.0002	0.0015	0.0026
322	Paper	0.6111	0.1918	0.0602	0.0100	0.0110	0.8841
323	Printing and Publishing	0.0097	0.0018	0.0000	0.0000	0.0335	0.0449
324	Petroleum	0.0491	0.0061	0.1051	0.0776	0.0298	0.2677
325	Chemicals	1.0000	0.6922	0.3520	0.0467	1.0000	3.0909
326	Plastics and Rubber	0.1720	0.0210	0.4660	0.0625	0.0210	0.7425
327	Stone/Clay/Glass	0.2142	0.3421	0.0170	0.0149	0.0136	0.6017
331	Primary Metals	0.8027	1.0000	1.0000	1.0000	0.4916	4.2943
332	Fabricated Metals	0.1752	0.1383	0.1477	0.0313	0.1906	0.6831
333	Machinery	0.0405	0.0490	0.0184	0.0027	0.0121	0.1226
334	Computers/Electronics Mfg	0.4582	0.0937	0.0263	0.0295	0.1088	0.7165
335	Electrical Equipment	0.0875	0.0111	0.0035	0.0006	0.0043	0.1069
336	Transportation Equipment	0.0138	0.0132	0.0574	0.0179	0.0559	0.1582
337	Furniture	0.0077	0.0005	0.0000	0.0000	0.0019	0.0101
339	Miscellaneous Manufacturing	0.0512	0.0274	0.0008	0.0002	0.0275	0.1070

# Typical Results

Rank	NAICS	Description	Environmental Subtotal	Economic Subtotal	Establishments with < 20 employees	Economic Forecast	Total
1	325	Chemical manufacturing	3.0909	2.6315	0.1740	0.5309	6.4274
2	311/312	Food, Beverage and tobacco product manufacturing	1.0290	2.8551	0.8887	1.0000	5.7728
3	331	Primary metal manufacturing	4.2943	0.5003	0.0506	0.6045	5.4497
4	332	Fabricated metal product manufacturing	0.6831	2.9408	0.8867	0.8655	5.3761
5	334	Computer and electronic product manufacturing	0.7165	2.7963	0.2195	0.7118	4.4440
6	339	Miscellaneous manufacturing	0.1070	2.3722	1.0000	0.7119	4.1912
7	333	Machinery manufacturing	0.1226	2.1539	0.2822	0.5027	3.0614
8	323	Printing and related support activities	0.0449	1.6316	0.7663	0.5166	2.9595
9	326	Plastics and rubber products manufacturing	0.7425	1.0853	0.1492	0.7123	2.6893
10	327	Nonmetallic mineral product manufacturing	0.6017	0.8670	0.2256	0.7128	2.4071
11	337	Furniture and related product manufacturing	0.0101	0.9905	0.4512	0.7430	2.1948
12	315	Apparel manufacturing	0.0000	0.7968	0.4952	0.7110	2.0029
13	336	Transportation equipment manufacturing	0.1582	1.1676	0.1118	0.3047	1.7424
14	335	Electrical equipment	0.1069	0.7329	0.1007	0.7118	1.6523
15	322	Paper manufacturing	0.8841	0.7078	0.0602	0.7123	1.6521
16	313	313/314 - Textile mills, Textile product mills	0.0300	0.4425	0.2099	0.1072	0.7895
17	321	Wood product manufacturing	0.0026	0.4279	0.1978	0.9798	0.6283
18	324	Petroleum and coal products manufacturing	0.2677	0.1315	0.0587	0.1019	0.5598
19	316	Leather and allied product manufacturing	0.0001	0.1016	0.0496	0.0000	0.1513

# Trends in Top 10 Prioritized Sectors

1	325	Chemicals	331	Primary Metals	332	Fabricated Metals	325	Chemicals	311/312	Food, Beverage and tobacco mfg
2	332	Fabricated Metals	325	Chemicals	331	Primary Metals	311/312	Food, Beverage and tobacco mfg	332	Fabricated Metals
3	311/312	Food, Beverage and tobacco mfg	311/312	Food, Beverage and tobacco mfg	325	Chemicals	331	Primary Metals	325	Chemicals
4	334	Computers/Electronics Products	334	Computers/Electronics Products	311/312	Food, Beverage and tobacco mfg	332	Fabricated Metals	331	Primary Metals
5	331	Primary Metals	332	Fabricated Metals	334	Computers/Electronics Products	334	Computers/Electronics Products	334	Computers/Electronics Products
6	339	Miscellaneous Mfg	339	Miscellaneous Mfg						
7	333	Machinery	333	Machinery	333	Machinery	333	Machinery	333	Machinery
8	323	Printing and Publishing	323	Printing and Publishing						
9	326	Plastics and Rubber	327	Nonmetallic mineral product mfg	326	Plastics and Rubber	326	Plastics and Rubber	326	Plastics and Rubber
10	327	Nonmetallic mineral product mfg	337	Furniture	327	Nonmetallic mineral product mfg	327	Nonmetallic mineral product mfg	322	Paper Manufacturing

# TRI Pollution Prevention Search

- Learn how facilities have reduced releases of toxic chemicals to the environment
- Compare how different facilities have managed their toxic chemical waste.

## Search Criteria

- Show P2 info for facilities
- Show P2 info for parent companies

Select one or more Industry Sector(s): [?](#)

All Industry Sectors

Select one or more Chemical(s) or Chemical Group(s): [?](#)

All Chemicals

Select one or more Year(s): [?](#)

2012-2020

Select one or more State(s): [?](#)

All States

Enter a ZIP Code or City Name: [?](#)

Show P2 Activities [?](#)

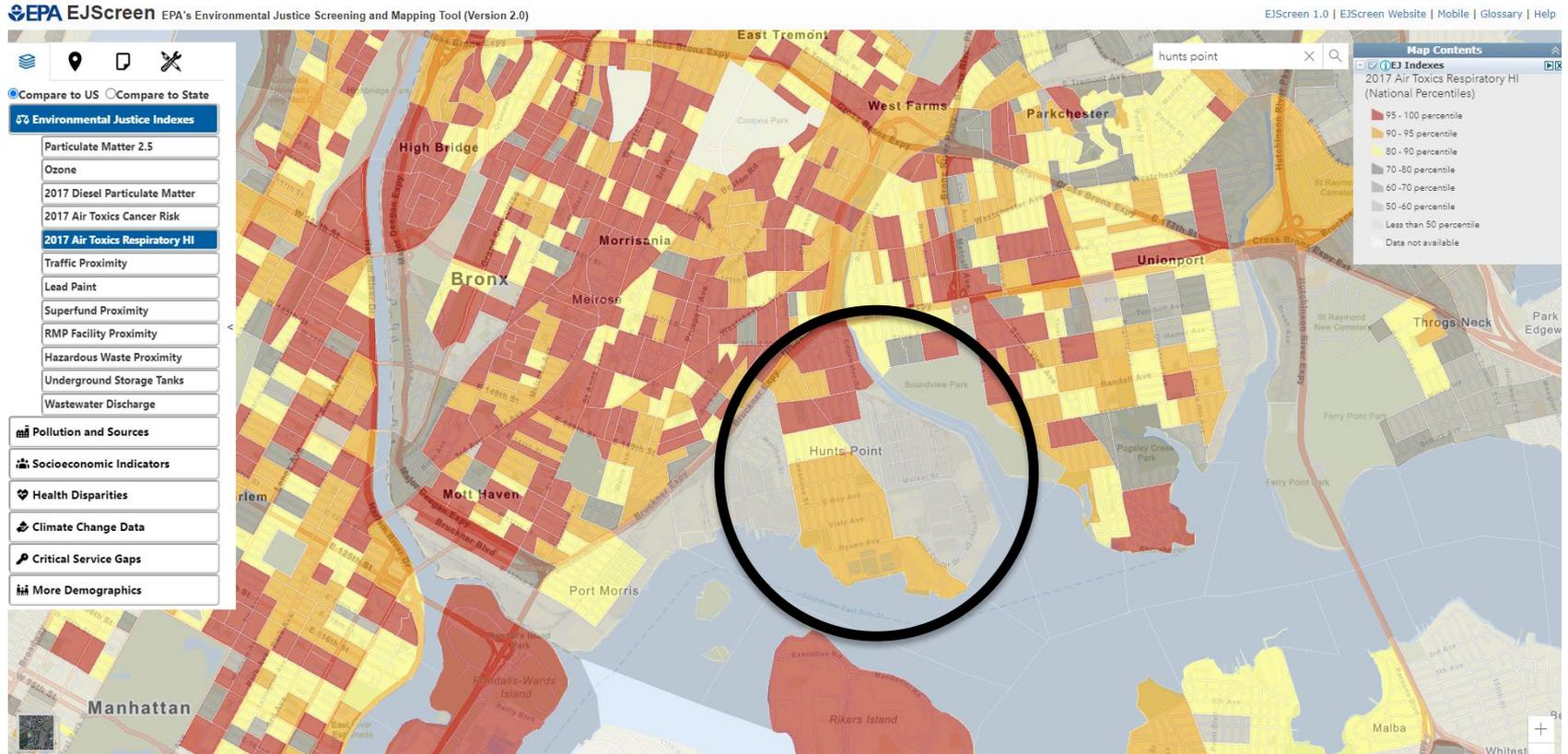
Display Facility Comparison [?](#)

Clear

# TRI Pollution Prevention (P2) Search Report

2018	<p><i>Source Reduction:</i> W61: Changed to aqueous cleaners (from solvents or other materials)[-5-14%]</p>	<p><i>Methods to Identify SR Opportunities:</i> T01: Internal pollution prevention opportunity audit(s) <i>Methods to Identify SR Opportunities:</i> T04: Participative team management</p>	<p>W61: We purchased and will be installing a new aqueous based degreaser - replacing an old unit. This will be completed and in operation by Q3 2019. W61: We have been in trials w/ safer, alternative chemicals for use in various cleaning and degreasing operations. Concurrently we have purchased a new degreaser and will decommission and dismantle our old unit in Q3 2019.</p> <p><i>Source Reduction</i> - Internal audit teams look for areas where attention is needed to ensure we are true to our environmental policy and procedures. <i>Source Reduction</i> - Our corporate policy and our Environmental Audit program require us to follow an audit schedule of areas and activities that may require environmental compliance.</p> <p><i>Source Reduction:</i> Methods for Identifying Pollution Prevention Opportunities - We have an open program with the New York State Pollution Prevention Institute through Rochester Institute of Technology to help us identify potential cost saving and waste minimizing projects.</p>
2017	<p><i>Source Reduction:</i> W13: Improved maintenance scheduling, recordkeeping, or procedures[-5-14%]</p>	<p><i>Methods to Identify SR Opportunities:</i> T04: Participative team management</p>	<p>W13: Increased periodic maintenance frequency to reduce potential equipment damage rendering solvent unusable.</p> <p><i>Source Reduction</i> - New area Supervisor will remove/replace outdated equipment, enhance Operator training and improve recordkeeping and communication logs, to make process improvements.</p> <p><i>Source Reduction:</i> Methods for Identifying Pollution Prevention Opportunities - We have an ongoing, open project with Gene Park, RIT's Pollution Prevention Institute on parts degreasing and cleaning to determine if an eco-friendly alternative solution may be used.</p> <p><i>Source Reduction:</i> Source Reduction - Alternative chemicals are being considered as a suitable replacement for the nPB currently used.</p>

# EPA's Environmental Justice Screening and Mapping Tool (Version 2.0)



# Thank You

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