Ohio Environmental Protection Agency

2014 Toxic Release Inventory Annual Report

Division of Air Pollution Control

April 2016

What is the Toxic Release Inventory?

The Toxic Release Inventory (TRI) program was authorized in 1986 by the Federal Emergency Planning and Community Right-to-Know Act (EPCRA), Section 313. The intent of the program is to provide to the public the "right-to-know" information about hazardous chemicals being used, manufactured, processed and/or released into the environment. This Act requires U.S. EPA and the states to collect data annually on releases and transfers of certain toxic chemicals from industrial facilities and make it available to the public.

In 1988, the Ohio General Assembly passed Substitute Senate Bill 367. This bill provides for state implementation of the federal EPCRA. Ohio EPA is charged with the administration of Chapter 3751 of the Revised Code. The law gave Ohio EPA authority to administer, inspect, enforce and establish a filing fee schedule in Ohio. Ohio EPA has designated Division of Air Pollution Control to coordinate the TRI program in Ohio.

The TRI reporting elements were expanded when Congress passed the Pollution Prevention Act of 1990, which required facilities to report additional data on waste management and source reduction to U.S. EPA. The TRI program was amended to provide communities with information about toxic chemical releases and waste management activities. The information also supports decision making by industry, government, non-governmental organizations and the public.

The annual TRI report provides citizens with vital information about their communities. The TRI program collects information on certain toxic chemical releases to the air, water and land, as well as information about waste management and pollution prevention activities by facilities across the state. TRI data are submitted annually to Ohio EPA by facilities in industry sectors such as manufacturing, metal mining, electric utilities and commercial hazardous waste facilities.

U.S. EPA finalized the Electronic Reporting of Toxics Release Inventory Data rule, which requires facilities to submit non-trade secret TRI reporting forms electronically to EPA. The rule was published in the Federal Register on Aug. 27, 2013 (78 FR 52860) and became effective on Jan. 21, 2014. Reports that are not submitted electronically using TRI-MEweb will not be processed as acceptable submissions. However, facilities submitting TRI reports containing trade secrets will still submit their reports to EPA on paper, not via TRI-MEweb. This electronic reporting requirement includes late submissions for prior reporting years, revisions, and withdrawals.

U.S. EPA no longer accepts TRI Reporting Forms for reporting years prior to reporting year 1991. The Electronic Reporting of Toxics Release Inventory Data rulemaking mentioned above restricts late submittals, revisions and withdrawals of TRI back to reporting year 1991. Facilities may no longer submit, revise or withdraw TRI reporting forms for reporting years prior to reporting year 1991.

TRI-MEweb expanded to accept reporting years 1991 – 2004 TRI Forms. TRI-MEweb now allows facilities to submit, revise and/or withdraw reporting forms for reporting years 1991 – 2004. Facilities preparing and submitting TRI reporting forms for these reporting years must send a copy of their forms on paper to the Ohio EPA TRI program. For reporting years 2005 – 2013, TRI-MEweb will continue to provide a copy to Ohio EPA's TRI program through the TRI Data Exchange (TDX) network.

What are the limitations of TRI data?

Users of the TRI data should be aware of its limitations in order to accurately interpret its significance. The TRI data limitations are:

- TRI does not cover all industries that release toxic chemicals.
- For reporting year 2014, TRI covers more than 650 toxic chemicals and chemical categories.
- Releases are reported as total annual releases. This alone is not sufficient to assess health or environmental impact of toxic chemicals released.

- The majority of releases are based on estimates. Facilities are required to report releases based on monitoring data, if such data is available. When monitoring data is not available, estimates are used. Estimates result in significant variability among reporting facilities.
- The TRI report contains information regarding the release and/or waste management of chemicals, not public exposure to chemicals. Screening risk assessments must be completed before health and environmental assessments can be made. **TRI data summaries must be interpreted with care.**

What do the 2014 TRI data show?

Over the past 10 years, total releases and transfers to the environment have decreased 48.7 percent. For reporting year 2014, Ohio facilities reported 153 million pounds of TRI-regulated chemicals or compounds that were released, disposed or managed. That number dropped to 149.7 million pounds after subtracting releases that were transferred off-site to other Ohio facilities that, in turn, reported the same chemical under TRI. Ohio EPA received 5,208 TRI reports from 1,357 facilities. While one-third of these facilities reported a single chemical, the average number of chemicals reported was three. Table 1 compares reporting years 2013 and 2014 TRI data for all reporting facilities. Total releases and transfers decreased by 4.4 percent between 2013 and 2014 (based on un-adjusted total releases), with the number of reporting facilities decreasing by 19 facilities.

Table 1: Comparison of 2013 and 2014 TRI Data

Comparison	2013 Amount	2014 Amount	Change
Releases to Air	47,178,740	44,929,013	-4.77%
Releases to Water	6,627,139	6,928,893	4.55%
Deepwell Injection	17,093,435	16,188,049	-5.30%
Releases to Land On-Site	25,536,230	21,664,435	-15.20%
Discharges to POTW	18,914,579	18,999,441	0.45%
Off-Site Disposal/Treatment	44,919,939	44,490,177	-0.96%
Total Releases and Transfers*	**153,871,199**	**149,706,762**	**-2.71%**
Energy Recovery On-Site	96,924,461	98,390,711	1.51%
Energy Recovery Off-Site	43,689,129	39,140,879	-10.4%
Recycling On-Site	89,806,982	123,067,722	37.04%
Recycling Off-Site	161,998,226	162,784,059	0.49%
Treatment On-Site	401,834,360	405,832,235	1.00%
Number of Chemicals Reported	296	297	0.33%
Number of Reporting Facilities	1,376	1,357	-1.45%
Number of Form Rs	4,691	4,637	-1.17%
Number of Form As	583	571	-2.06%

* Does not include releases that were transferred off-site to facilities that reported the same chemical under TRI.

Increases and decreases are attributable to many factors including changes in production, types of measurement used and efforts to minimize releases and develop uses or find markets for what might otherwise have been a waste. For many Resource Conservation and Recovery Act (RCRA) facilities, subject to TRI reporting in 1998, minor waste stream and market changes greatly affected TRI reporting.

Why does TRI data change over time?

In 2014 reports, approximately 153 million pounds of toxic chemicals were released to the environment or transferred off-site for treatment or disposal. The data presented for 2014 reflects the TRI data reports due July 1, 2015. Ohio EPA's TRI Unit continually reviews this data and works with reporting facilities to assure data quality. Additional and revised data provided subsequent to July 1, 2015 has been incorporated into this report to the extent possible considering publication deadlines. Changes to the list of reportable chemicals create difficulties in presenting historical TRI data in an accurate and consistent format.

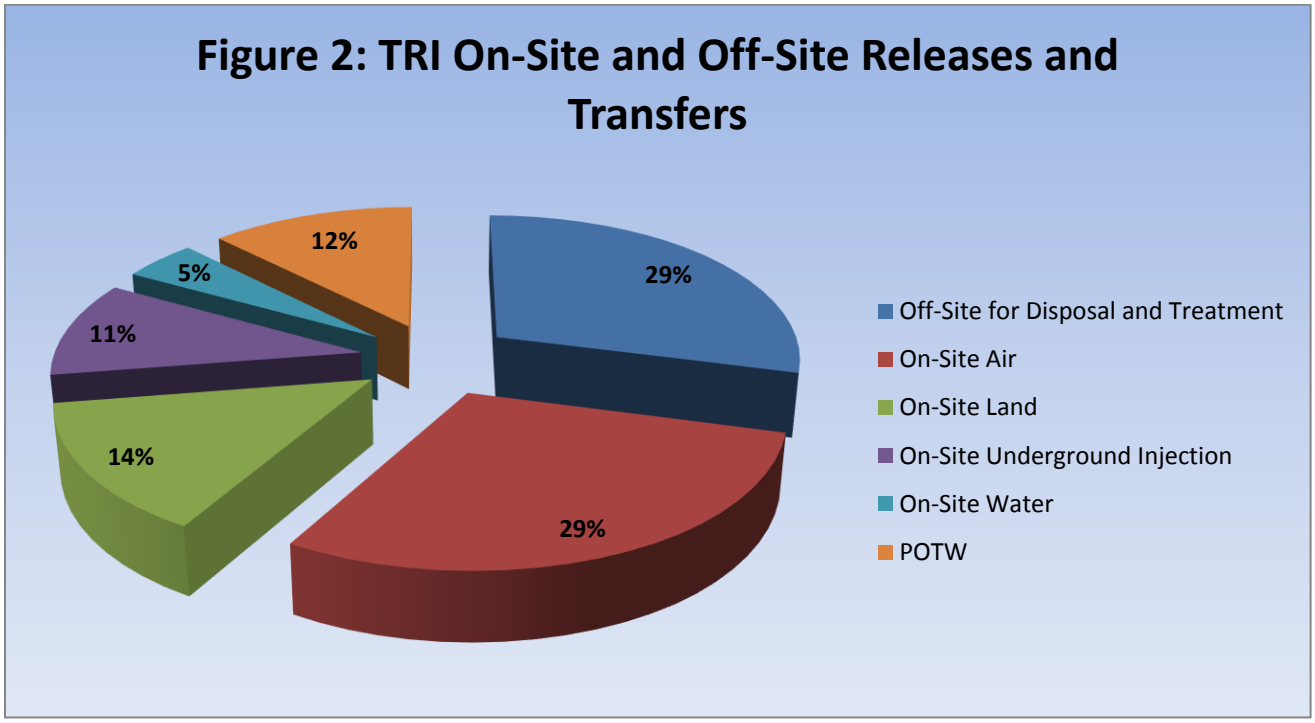


Figure 3: Releases to air, water, deepwell injection and land on-site for all reportable chemicals (millions lbs/yr)

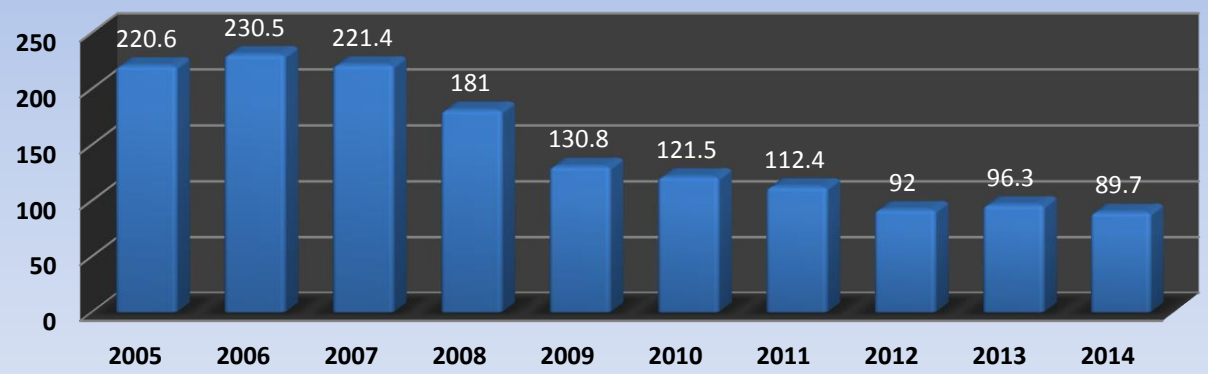
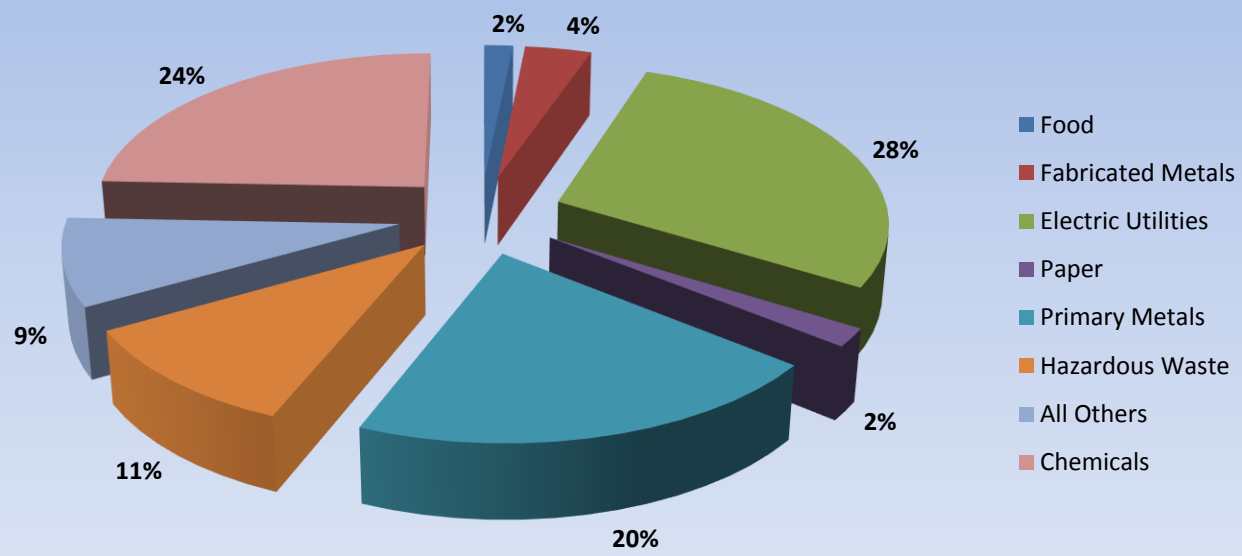


Figure 4: 2014 TRI Total Disposal or Other Releases by Industrial Sector (119 Million Pounds)



Ohio EPA contacted facilities reporting significant increases or decreases in waste management or releases from 2013 to 2014 to determine what caused the change. The following information was developed through summary data and facility responses:

Air Releases	Air releases decreased by 4.8 percent or 2.2 million pounds for 2014, with facilities reporting 44.9 million pounds. As in previous years, power-generating facilities in Ohio reported the largest TRI air releases, representing seven of the top 10 facilities. Power-generating facility releases primarily contain hydrochloric and sulfuric acid aerosols, resulting from coal combustion. These two chemicals make up 50 percent of all reported air releases. ***American Electric Power, Muskingum River Plant (Washington County)*** reported an increase of 1.1 million pounds. The increase was due to a 41% increase in operation that would have resulted in more air releases. ***PCS Nitrogen of Ohio (Allen County)*** reported a decrease of 1.9 million pounds. The decrease in emission was due to a plant shut down for maintenance and the start of an expansion project. The ammonia and urea plants were shut down for 59 days, from approximately Oct. 4, 2014 through Dec. 1, 2014. ***Duke Energy's Beckjord Station (Clermont County)*** reported a decrease of 1.3 million pounds. That decrease was due to a significant decrease in operation at the facility. The facility operated for only a portion of 2014 and at a reduced rate when it was operating. The facility was retired at the end of 2014; therefore, reporting year 2014 will be the last reported year for TRI for this facility.
Water Releases	Water releases increased by 4.6 percent or 0.3 million pounds from the 2013 report. Nitrate releases accounted for roughly 95 percent of all reported releases to Ohio waterways in 2014. Nitrate compounds are manufactured through the treatment of nitric acid and are routinely permitted and monitored under the terms of National Pollutant Discharge Elimination System (NPDES) permits. ***AK Steel (Coshocton County)*** reported an increase of 0.6 million pounds compared to 2013. The increase was due to an 8 percent increase in production as well as changes in product mix. ***Eramet Marietta Inc. (Washington County)*** reported a decrease of 0.13 million pounds. The decrease is caused by the methods in which the loading was calculated as well as certain changes in operating practices, one of scrubbers was decommissioned,and replaced by a baghouse.
Deepwell Injection	Only two facilities reported TRI deepwell injection for 2014, showing a decrease of 5.3 percent when compared to 2013 data. ***Vickery Environmental Services (Sandusky County)***, a RCRA-regulated disposal facility in Vickery, reported a decrease of 1.1 million pounds. The decrease in injection and subsequently total releases relates to the decrease in waste received by the facility for disposal by deepwell injection. ***INEOS USA, LLC in Lima (Allen County)*** reported 7.3 million pounds, a 0.2 million pound increase from 2013. INEOS USA, LLC notes the increase was due to increased production levels.

Land On-Site	Land releases on-site down in 2014, decreasing by 15.2 percent to slightly over 21.6 million pounds. ***Duke Energy Miami Fort, LLC (Hamilton County)*** reported an increase of 0.55 million pounds. The increase was due to an 80 percent decrease in fly ash beneficial reuse/sales, which resulted in a 215 percent increase in fly ash onsite landfill disposal. ***Arcelormittal Cleveland LLC (Cuyahoga County)*** reported a decrease of 1.9 million pounds. The facility generated 93.1 million pounds less of residual waste in 2014 in comparison to the quantity generated in 2013 due to a waste minimization project. The residual waste is deposited in a landfill on site. ***Envirosafe Services of Ohio (Lucas County)*** reported a decrease of 1.0 million pounds. The facility is a commercial hazardous waste landfill facility; it received waste in 2013 that contained higher concentrations of TRI constituents than it did in 2014. The concentration of TRI constituents in the waste received for disposal is not consistent year to year nor is the total amount of waste received. ***Cristal USA, INC (2900 Middle Rd) (Ashtabula County)*** reported a decrease of 0.8 million pounds. The decrease was due to a decrease in manganese content in raw materials from 2013 to 2014. ***Cristal USA, INC (2426 Middle Rd) (Ashtabula County)*** reported a decrease of 0.6 million pounds. The decrease was due to a decrease in manganese content in raw materials from 2013 to 2014.
POTW Releases	Publicly Owned Treatment Works (POTWs) in Ohio reported an increase of 0.5 percent for 2014, from 18.9 million in 2013 to 19 million pounds in 2014. Nitrate compounds represent the largest POTW releases, accounting for 84.2 percent of total statewide releases. ***Anomatic Corp. (Licking County)*** reported an increase of 0.25 million pounds. The increase in discharge is due to an increased use of nitric acid. Nitric acid use is dictated by customer product mix and varies from year to year. ***Research Organic (Cuyahoga County)*** reported a decrease of 0.43 million pounds. The facility completed a number of process improvement projects to reduce overall emissions at the facility in 2014. The projects included process improvements to reduce methanol in wastewater to POTW. ***Shepherd Chemical Co. (Hamilton County)*** reported a decrease of 0.2 million pounds. The reduction was due to a reduction of nitrates generated in one of the manufacturing processes. In 2014, they produced less than half of a major product in which sodium nitrate is generated as a byproduct and released to POTW.

Total Releases and Transfers	Total releases and transfers decreased in 2014 up by 4.4 percent. Ohio facilities reported 153.2 million pounds in 2014 compared to 160.3 million pounds in 2013. ***Tier Environmental, LLC (Cuyahoga County)*** reported an increase of 4.1 million pounds. TIER owns and operates a Part B permitted hazardous waste TSDF (Treatment, Storage and Disposal Facility). The increase is due to an increase in customer base and waste received. ***American Electric Power, Muskingum River Plant (Washington County)*** reported an increase of 1.2 million pounds. The increase was due to a 41 percent increase in operation that would have resulted in more releases. ***PCS Nitrogen Ohio (Allen County)*** reported a decrease of 1.9 million pounds. The decrease in releases was due to a plant shut down for maintenance and the start of an expansion project. The ammonia and urea plants were shut down for 59 days, from approximately Oct. 4, 2014 through Dec. 1, 2014. ***Arcelormittal Cleveland LLC (Cuyahoga County)*** reported a decrease of 1.9 million pounds. The facility generated 93.1 million pounds less of residual waste in 2014 in comparison to the quantity generated in 2013 due to a waste minimization project.
Energy Recovery On-Site	Energy recovery on-site increased by more than 1.5 percent statewide, up by more than 1.5 million pounds in 2014. ***PPG Industries Ohio Inc. (Pickaway County)*** reported a 4.5 million pound increase. PPG is reporting for two contiguous facilities under a single TRI facility ID Number at Circleville, OH. These facilities consist of an automotive coating manufacturing plant and an energy recovery unit (ERU), or industrial kiln. The ERU has historically received waste materials from the on-site manufacturing plant as well as up to 37 additional PPG facilities located throughout the United States. The ERU converts organic waste into energy (steam) for the Circleville manufacturing plant. In March 2012, PPG voluntarily idled incineration activities at the ERU pending successful completion of performance testing. The ERU remained temporarily idled to facilitate modification to the emissions destruction system until 2014. In 2014 the ERU operated from May through January. On-site energy recovery is a primary objective of the ERU. ***Lafarge NA (Paulding County)*** reported a 2.6 million pound increase. The increase was due to an improving market, the availability of more alternative fuels, and the increase in the amount the facility burns which increased the kiln hours of operation. these can vary from year to year. ***Marathon Petroleum Co. LP (Stark County)*** reported a 3.3 million pound decrease in on-site energy recovery. The decrease resulted from methodology/calculation changes and continuous improvement. ***Haverhill Chemicals LLC (Scioto County)*** reported more than a 1.5 million pound decrease in on-site recovery. The decrease was attributed to the decrease in waste fuel combusted in 2014 for the production of steam.

Energy Recovery Off-Site	Statewide, energy recovery off-site decreased by 10.4 percent (4.5 million pounds) for 2013. Most energy recovery activity was reported by chemical manufacturers and RCRA regulated TSD facilities. ***Veolia ES Technical Solutions (Montgomery County)*** reported a decrease of 5.5 million pounds. The facility is a hazardous waste TSDF, they rely on what the customers generate and send. Customers do change on a year to year basis as well. The quantities and types of wastes they manage on-site and transport off-site on a year to year basis varies depending on the wastes received. ***Tier Environmental LLC (Cuyahoga County)*** reported a decrease of 1.4 million pounds. The decrease resulted from changes in customer base, demand and overall business.
Recycling On-Site	On-site recycling increased by more than 37 percent, up by more than 33.2 million pounds. ***PPG Industries Ohio (Pickaway County)*** reported an increase of 7.2 million pounds. Distillate which was recycled through the ERU as a cleaning flush in 2014 was sent off site for recycle during reporting year 2013. ***BASF Corp. (Hamilton County)*** reported a decrease of 1.2 million pounds. The reduction was due to the constant change in customers and streams of waste received by the facility.
Recycling Off-site	Off-site recycling was increased by less than 0.8 million pounds in 2014. ***Republic Steel Lorain Plant (Lorain County)*** reported an increase of more than 2.8 million pounds in off-site recycling. The facility began operations of new Electric Arc Furnace during the 2014 reporting year. As part of this process, bag house dust was collected and sent to a recycling facility. ***PPG Industries Ohio Inc. (Pickaway County)*** reported a decrease of more than 5 million pounds in off-site recycling. The decrease was due to distillate being used in the energy recovery unit as a cleaning agent instead of being sent offsite for recycling as in 2013. ***Republic Steel Canton plant (Stark County)*** reported a decrease of more than 2 million pounds in off-site recycling. Economic conditions caused reductions that resulted in idling of some steel-making operating units in 2014. That led to the reduction in production.

Treatment On-Site	Treatment on-site increased by 1 percent or about 4 million pounds. It is the primary waste management activity reported by facilities. Traditional manufacturing, power generation, and RCRA treatment, storage and disposal facilities (TSDs) all reported on-site waste treatment. ***American Electric Power Gavin Plant (Gallia County)*** reported an increase of 5.5 million pounds. The plant had less ash that was sold or donated in 2014 compared to 2013, resulting in more on-site treatment. ***Tier Environmental LLC (Cuyahoga County)*** reported an increase of 5.3 million pounds. The increase resulted from changes in customer base, demand, and overall business. ***American Electric Power Conesville Plant (Coshocton County)*** reported an increase of 4.7 million pounds. The plant had a 23 percent increase in operation compared to 2013, that would have resulted in more waste for onsite treatment. ***Solvay Specialty Polymers USA (Washington County)*** reported a decrease of 5 million pounds. This decrease is due to a change in calculation method, which Solvay believes more accurately represents the quantity of hydrochloric acid treated on-site by the facility Thermal Oxidizer/Scrubber control devices. Previously Solvay conservatively used a calculation that assumed that the Thermal Oxidizer/Scrubber control devices always operated at the maximum waste gas design load. Instead for 2014 data, a mix of normal and maximum waste gas load to the control devices for destruction, which is more reflective of actual process data, was used in the calculation. ***Duke Energy Zimmer Station (Clermont County)*** reported a decrease of 4.4 million pounds. The facility uses an Electric Power Research Institute (EPRI) modeling program called TRI for Power Plants (TRIPP) to assist in preparing the TRI reports. Emission factors utilized by this model were updated by EPRI for reporting year 2014. These changes did play a role in the on-site treatment decrease, but the major contributor to the on-site treatment decrease was that the facility had a 21 percent decrease in coal consumption (22 decrease in generation).

Statewide totals of on-site releases, off-site transfers, and on-site waste management for reporting years 2005 to 2014 are provided in Tables 2 and 3. Table 2 represents all data including the data for delisted, added and modified chemicals and the expansion industrial sectors. Table 3 does not include data for: (1) chemicals that have been delisted, added or modified; and (2) new industrial sectors which were added to TRI in order to allow for historical trend analysis.

Table 2: 10-Year-Trend: All Facilities and Chemicals (millions of pounds)

Comparison	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Releases to Air	126.4	120.3	114.9	90.4	74.6	65.0	58.4	47.4	47.2	44.9
Releases to Water	6.9	8.3	9.3	8.5	6.2	9.2	8.8	7.6	6.6	6.9
Deepwell Injection	24.5	22.5	22.3	22.9	13.9	19.4	18.1	14.8	17.1	16.2
Releases to Land On-Site	62.5	79.5	74.2	59.2	35.1	28.1	26.6	22.5	25.5	21.7
Discharges to POTW	19.8	16.6	17.8	17.4	16.5	18.2	20.1	22.5	18.9	19.0
Off-Site Disposal/ Treatment	82.5	97.5	80.3	63.3	42.9	47.7	57.4	44.7	44.9	44.5
Total Releases and Transfers*	**276.9**	**290.5**	**276.3**	**224.1**	**158.5**	**154.8**	**150.4**	**155.4**	**153.9**	**149.7**
Energy Recovery On-Site	82.1	97.5	73.9	69.4	42.3	56.7	73.8	113.7	96.9	98.4
Energy Recovery Off-Site	36.0	35.0	31.7	31.3	25.9	25.7	28.3	32.8	43.7	39.1
Recycling On-Site	132.4	98.1	108.9	84.9	67.5	75.9	90.6	102.2	89.8	123.1
Recycling Off-Site	160.2	162.5	165.2	158.5	107.6	143.3	153.4	174.1	162.0	162.8
Treatment On-Site	338.7	351.3	381.6	403.6	428.2	368.9	370.1	379.3	401.8	405.8
Number of Reporting Facilities	1,636	1,602	1,529	1,476	1,378	1,375	1,395	1,341	1,376	1,357

* Does not include releases that were transferred off-site to facilities that reported the same chemical under TRI.

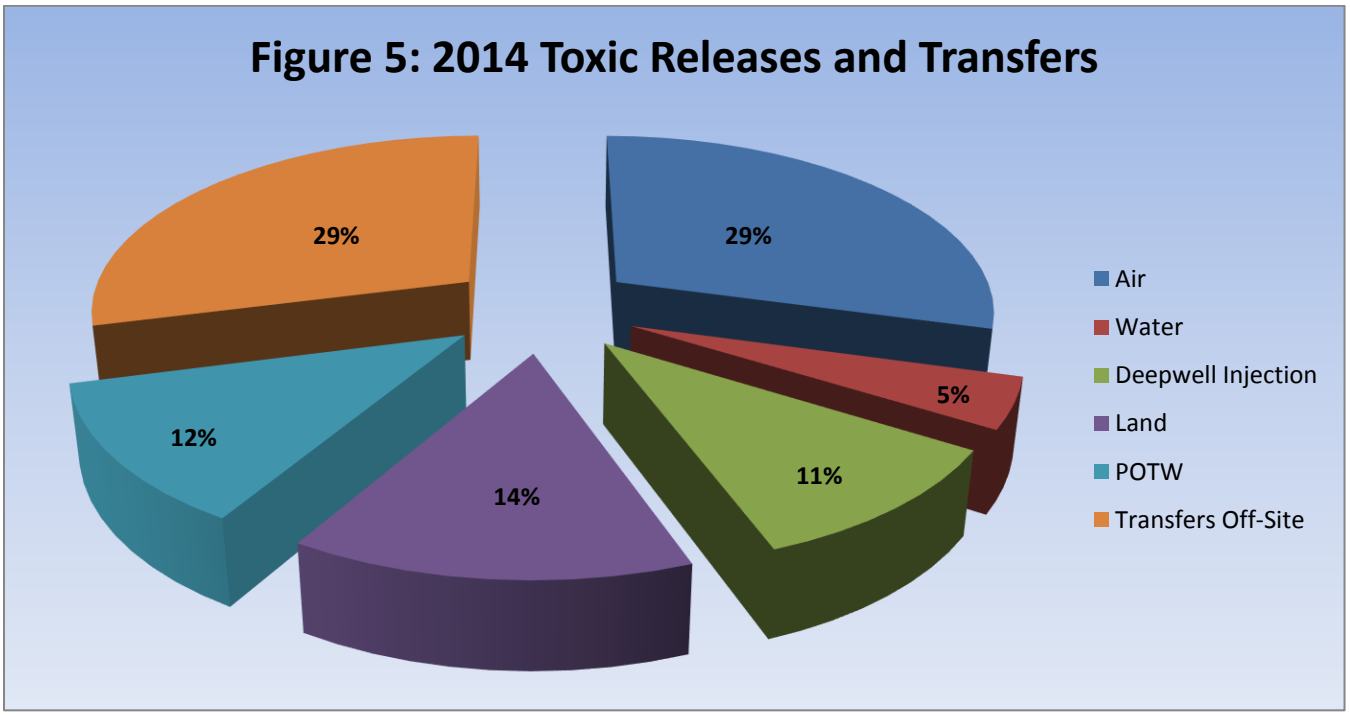
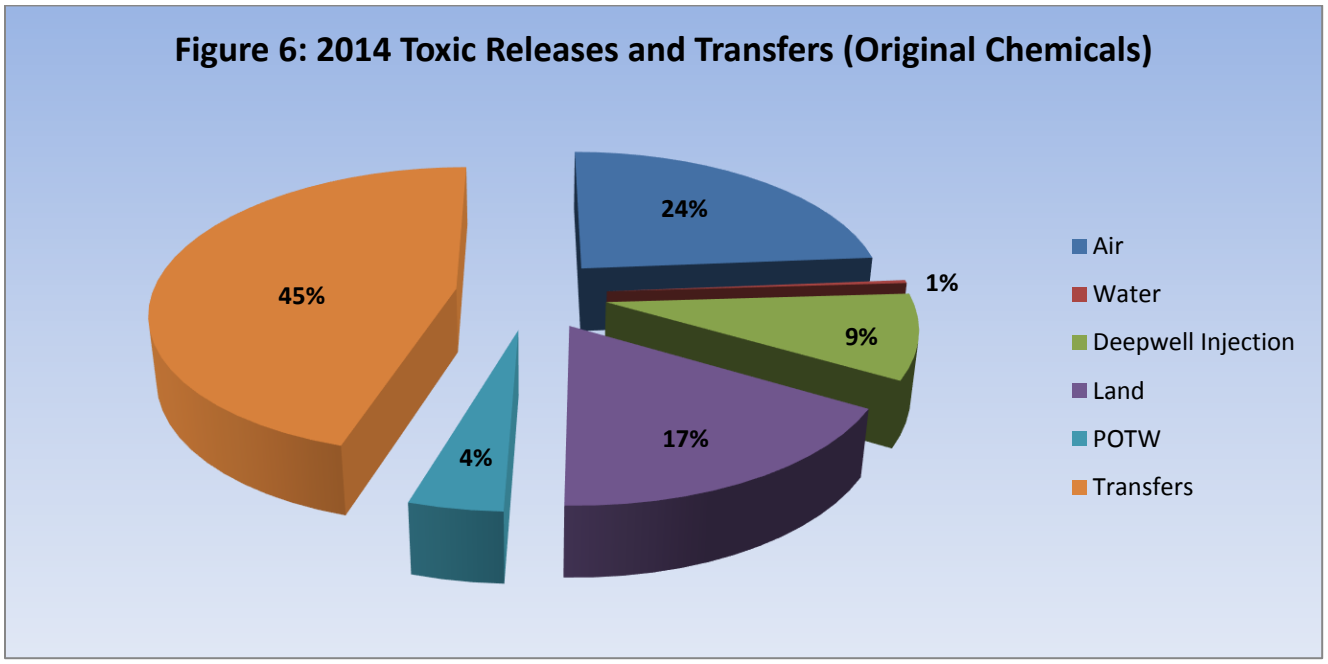


Table 3: 10 Year-Trend: Original Facilities and Chemicals (millions of pounds)

Comparison	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Releases to Air	26.2	25.7	23.9	21.5	16.1	15.4	15.4	15.3	15.2	13.7
Releases to Water	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.2
Deepwell Injection	14.2	10.0	7.6	9.0	7.5	8.3	7.0	5.7	5.4	5.4
Releases to Land On-Site	13.1	12.7	16.4	16.7	9.3	12.8	12.6	10.9	12.4	9.9
Discharges to POTW	5.6	4.6	5.6	4.6	4.2	3.1	4.3	2.5	2.6	2.4
Off-Site Disposal/ Treatment	64.9	83.5	64.9	83.5	65.3	50.7	31.1	35.9	28.6	26.2
Total Releases and Transfers*	**124.4**	**136.8**	**117.7**	**101.4**	**68.6**	**75.3**	**81.0**	**69.3**	**64.5**	**57.8**
Energy Recovery On-Site	81.6	93.8	70.7	67.3	41.0	55.1	70.0	101.6	88.7	91.7
Energy Recovery Off-Site	20.0	26.4	19.2	17.4	14.9	16.6	12.3	14.0	13.0	13.7
Recycling On-Site	63.8	64.0	59.8	54.7	43.4	52.1	70.3	85.6	71.1	78.9
Recycling Off-Site	142.3	139.0	130.6	128.0	128.0	113.6	121.5	148.2	134.6	135.6
Treatment On-Site	110.9	106.8	108.0	110.0	100.9	104.4	114.2	107.5	105.3	108.1
Number of Reporting Facilities	1,419	1,407	1,341	1,283	1,195	1,193	1,213	1,166	1,195	1,178

* Does not include releases that were transferred off-site to facilities that reported the same chemical under TRI.



PBT Chemicals

Persistent, Bioaccumulative and Toxic chemicals (PBTs) are highly toxic, long-lasting substances that can build up in the food chain to levels that are harmful to human and ecosystem health. They are associated with a range of adverse human health effects including effects on the nervous system, reproductive and developmental problems, cancer and genetic impacts. The challenge in reducing risks from PBTs stems from the chemical's ability to travel long distances; to transfer among air, water and land; and to linger for generations in the environment. The populations especially at risk from PBTs such as mercury, dioxins and polychlorinated biphenyls (PCBs) are children and the developing fetus.

The PBT chemical list consists of 16 individual chemicals and four chemical categories. The chemical categories are dioxin and dioxin-like compounds, lead compounds, mercury compounds and polycyclic aromatic compounds (PACs). The four PBTs with the largest volume of reported releases, transfers and treatment in Ohio for 2014 were lead and lead compounds; PACs; mercury and mercury compounds; and benzo(g,h,i)perylene.

Overall releases and transfers of PBT chemicals decreased 28.4 percent for reporting year 2014. However, there was a 1.5 percent increase (739 pounds) in releases of PBTs to the air.

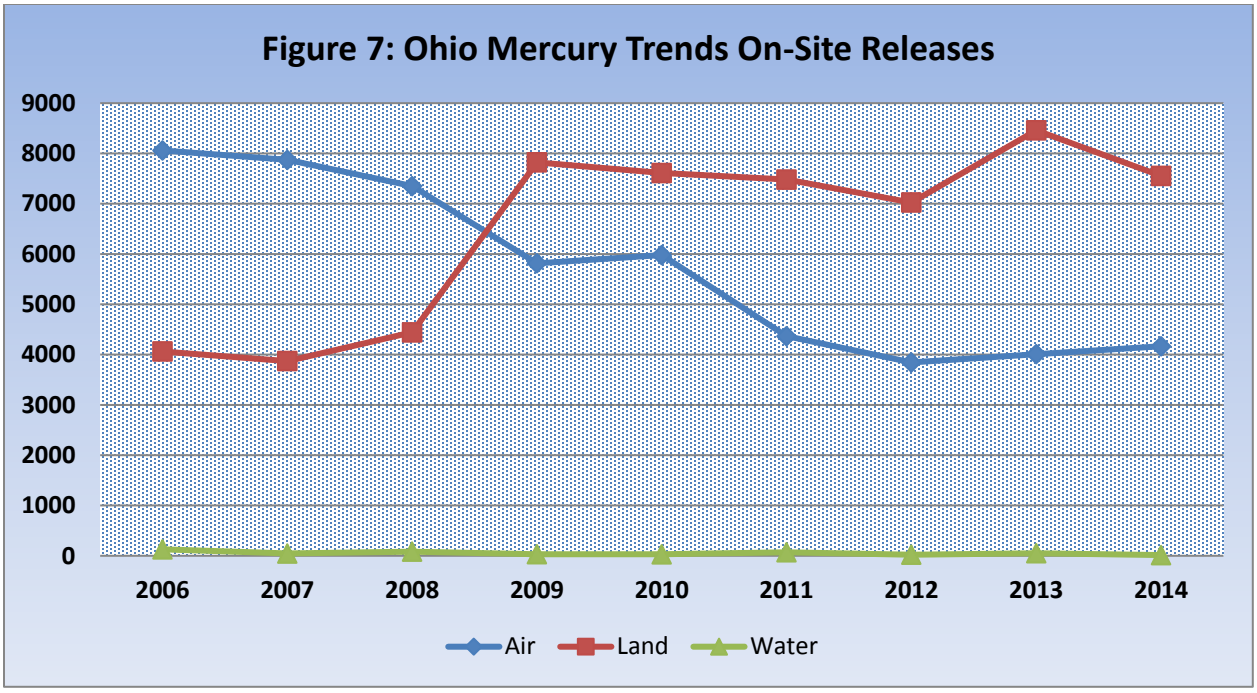
Dioxin and dioxin-like compounds were reported by 41 facilities, the same number as in 2013. Those industries reporting dioxin and dioxin-like compounds include fossil fuel power plants, paper mills, foundries and petroleum refineries. Small quantities of dioxins are formed as a result of combustion processes, chlorine bleaching pulp and paper, certain types of chemical manufacturing and processing and other industrial processes.

Persistent Bioaccumulative Toxic (PBT) chemicals accounted for 2.1 million pounds or 1.3 percent of reported releases and transfers. Of that total, lead and lead compounds accounted for 97 percent, or 2.04 million pounds, of PBTs. Total disposal or other releases for mercury and mercury compounds were 18,477 pounds and, for dioxin and dioxin-like compounds, total disposal and other releases were 838 grams.

Mercury and Mercury Compounds

Mercury and mercury compounds were reported by 87 facilities, compared to 86 in 2013. Reporting facilities include power plants, paper mills, steel works, refuse systems, glass manufacturing and electric light manufacturers.

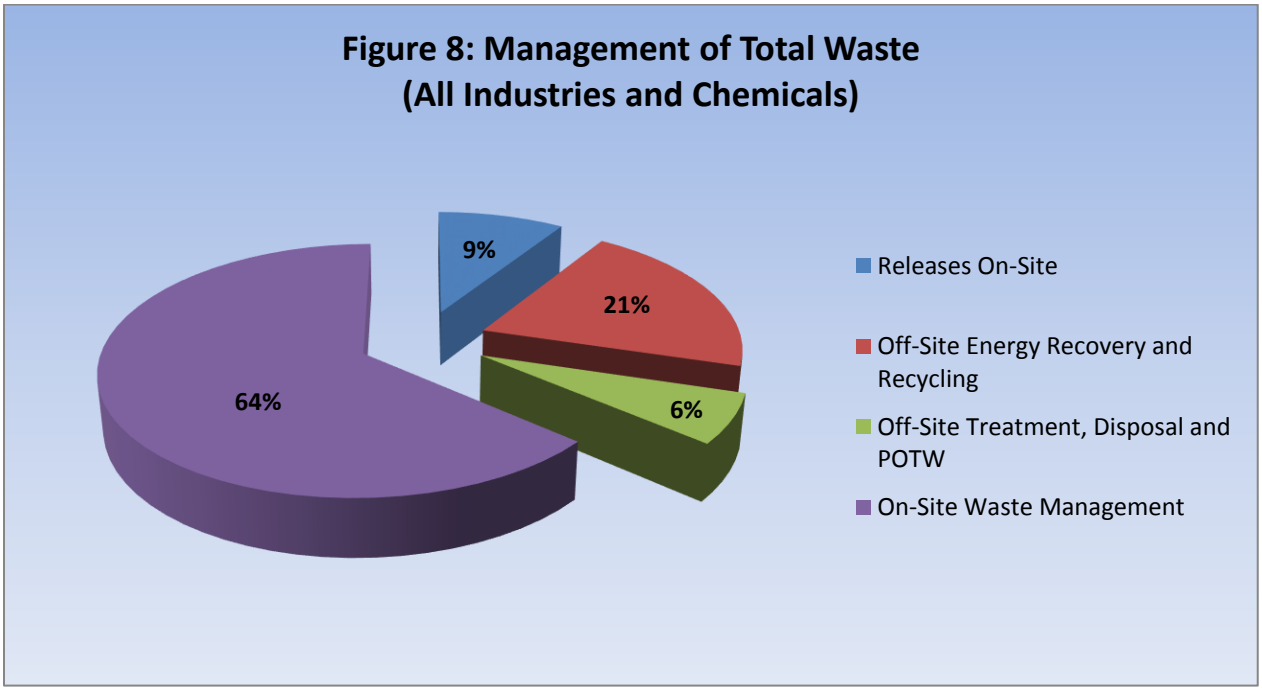
Facilities in Ohio reported a decrease of 7.0 percent of on-site releases of mercury and mercury compounds. American Electric Power Gavin Plant (Gallia County) reported 1,626 pounds of mercury released on-site, Ohio Valley Coal Company (Belmont County) reported 1,463 pounds of mercury released on-site, and American Electric Power Conesville Plant (Coshocton County) reported 1,250 pounds of mercury released on-site.



Management of TRI Chemicals in Waste

The Pollution Prevention Act (PPA) of 1990 required facilities to report information about the quantities of TRI chemicals in waste managed both on- and off-site. The PPA established a hierarchy of waste management options in which source reduction is the preferred approach to manage waste. Source reduction is defined as a means of preventing waste from being generated. In situations where source reduction cannot be implemented, the preferred management techniques in order of preference are recycling, energy recovery and treatment.

The TRI data can be used to analyze trends in total quantities of TRI chemicals to determine if facilities are reducing the amount generated. As reported under TRI, waste falls under one of four categories based on its final disposition. The first category is releases on-site, which include releases to air, water, deepwell injection and land on-site. The second is discharges to POTWs and transfers off-site for treatment and disposal. The third category is transfers off-site for recycling and energy recovery, and includes waste recycled or used as fuel. The fourth category is waste management on-site, which includes on-site treatment, recycling and energy recovery. The following provides the percentages of waste generated in these four categories. As illustrated by Figure 8, much of the waste never leaves the facility, but is managed on-site through treatment, recycling or energy recovery.



The on-site waste management data, when combined with the amounts released on-site and transferred off-site, is important to understand the overall annual amount of waste generated by a facility.

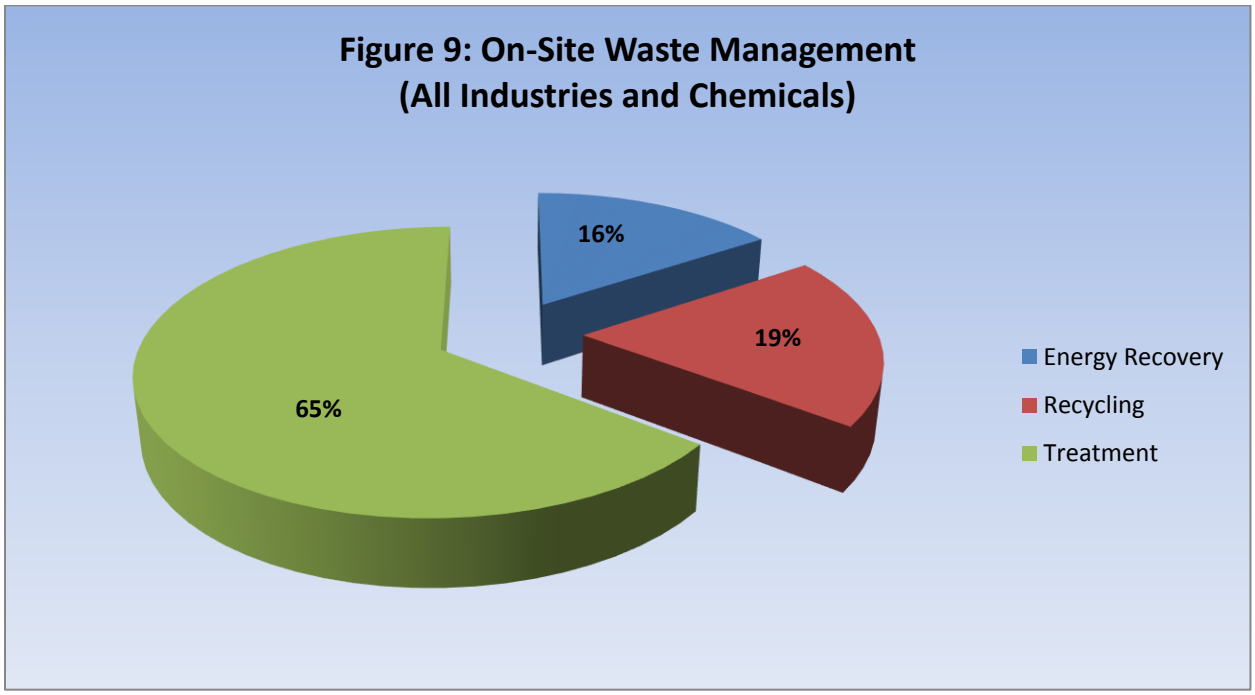


Table 4: Number of Reporting Facilities

Number of Reporting Facilities – RY 2014		
Rank	**State**	**Number of Facilities**
1	Texas	1,800
2	Ohio	1,369
3	California	1,276
4	Pennsylvania	1,162
5	Illinois	1,075

Table 5: Top States for 2014 Releases

Medium	Rank	State	Release (pounds)
Air	1	Texas	60,642,539
	2	Louisiana	49,184,501
	3	Ohio	44,944,789
	4	Indiana	43,737,527
	5	Georgia	40,242,974
Water	1	Indiana	22,455,054
	2	Texas	16,303,947
	3	Georgia	16,037,731
	4	Alabama	14,042,176
	5	Louisiana	13,311,012
	11	Ohio	6,928,893
Land On-Site	1	Alaska	1,162,526,637
	2	Nevada	279,146,657
	3	Utah	200,272,208
	4	Arizona	74,566,388
	13	Ohio	26,636,090
Deepwell Injection	1	Texas	81,724,094
	2	Louisiana	47,586,195
	3	Florida	26,272,177
	4	Ohio	16,188,049
	5	Mississippi	15,991,156

Additional Information

Ohio EPA's Division of Air Pollution Control has the primary responsibility in Ohio for collecting, processing and distributing information submitted under TRI. Additional information not contained in this report is available to the public through the division's TRI program.

Information Requests

TRI staff takes requests by phone to provide information on individual facilities. TRI information can be supplied by fax or by mail as either a hard copy or electronically. Data searches and summaries can also be performed. Call the TRI staff at (614) 644-2260 during business hours.

Web Resources

Ohio EPA TRI	***epa.ohio.gov/dapc/tri/tri.aspx***
U.S. EPA TRI	***epa.gov/TRI/***
U.S. EPA TRI Explorer	***http://iaspub.epa.gov/triexplorer/tri_release.chemical***
Toxnet	***toxnet.nlm.nih.gov***
Envirofacts	***epa.gov/enviro/***
RTK Network	***rtknet.org***

Ohio TRI Program Contacts

Ohio EPA TRI Program	***(614) 644-2260***
Cindy DeWulf	***cindy.dewulf@epa.ohio.gov***
Jeff Beattie	***jeff.beattie@epa.ohio.gov***
Muhammad Elsalahat	***muhammad.elsalahat@epa.ohio.gov***