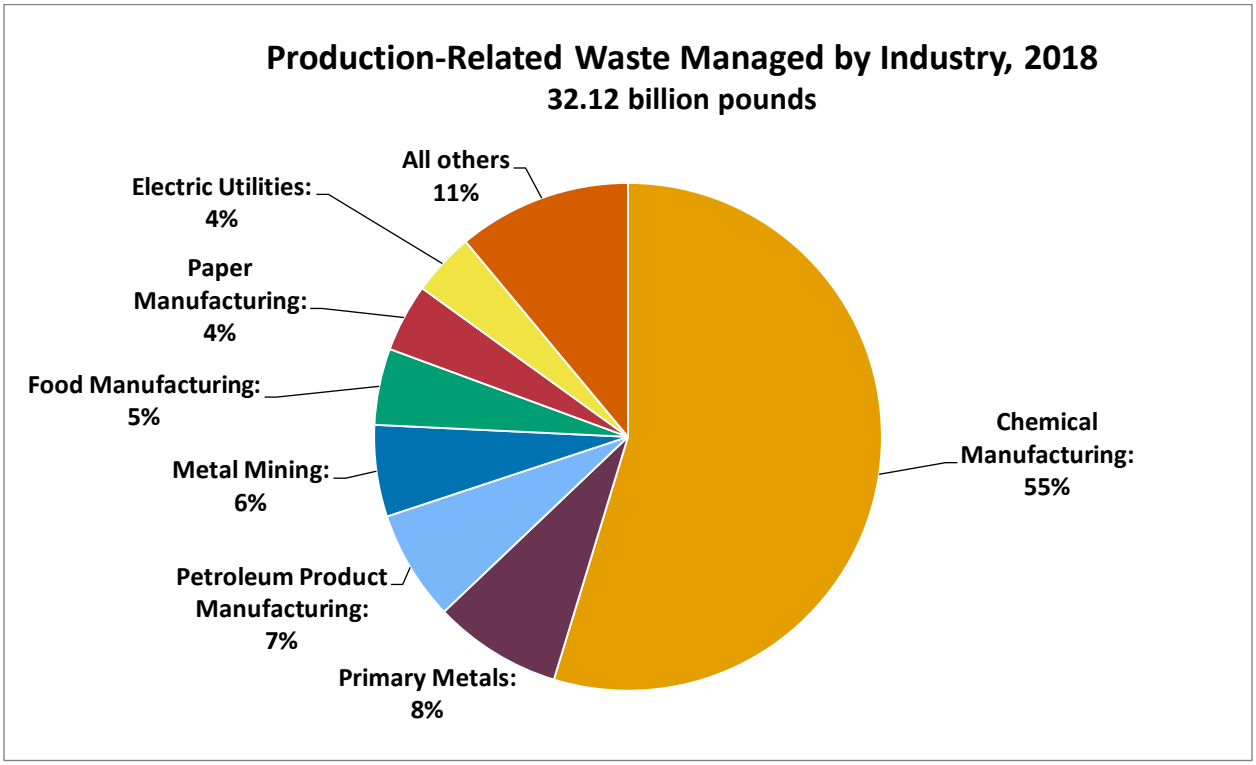
Comparing Industry Sectors

This section examines how different industrial sectors manage their chemical waste. This sector-specific approach can highlight progress made in improving environmental performance, identify emerging issues, and reveal opportunities for better waste management practices.

The industries that are subject to TRI reporting requirements vary substantially in size, scope, and business type. As a result, the amounts and types of chemicals used, generated, and managed by facilities within a given industry sector often differ greatly from those of facilities in other sectors. For facilities in the same sector, however, the processes, products, and regulatory requirements are often similar, resulting in similar manufacture, processing, or other use of chemicals.

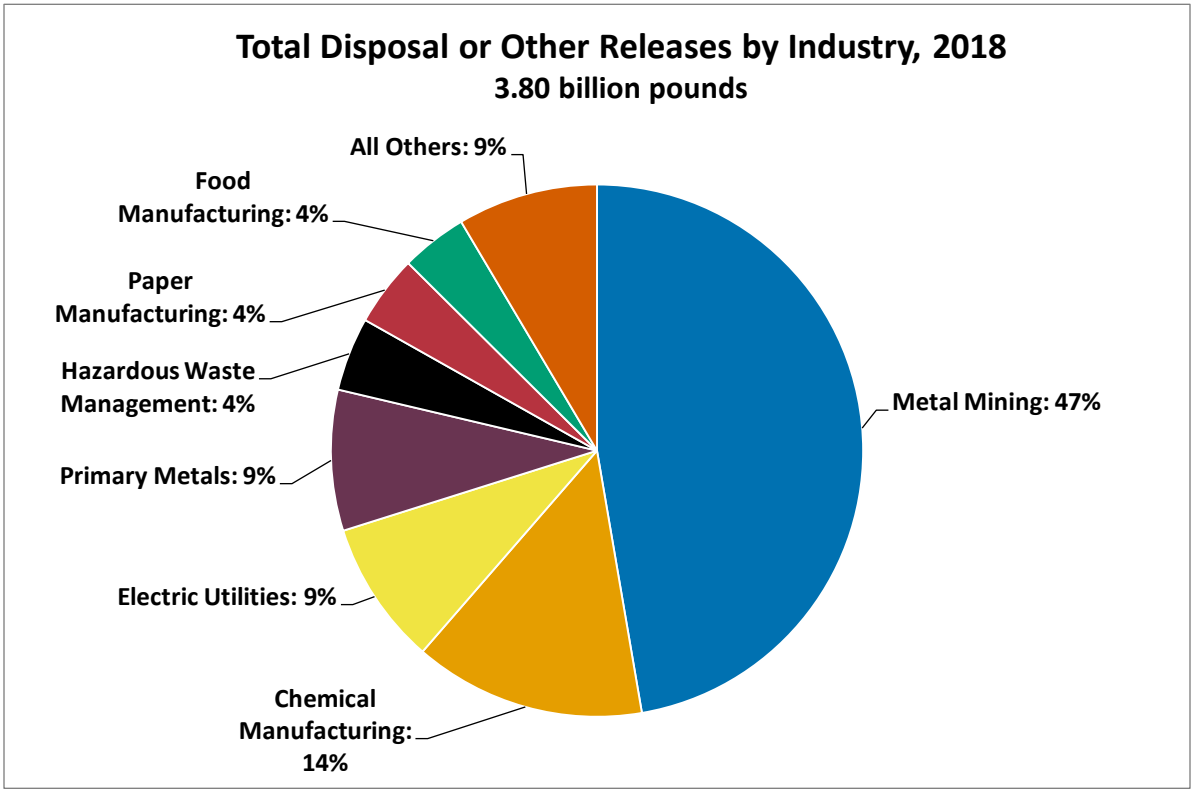
For analysis purposes, the TRI Program has aggregated the North American Industry Classification System (NAICS) codes at the 3- and 4-digit levels, creating 29 industry sector categories. To learn more about which business activities are subject to TRI reporting requirements, see this list of covered NAICS codes.

The following pie chart shows the industry sectors that reported the most production-related waste for 2018.



Seven industry sectors reported 89% of the quantities of TRI chemicals managed as production-related waste in 2018. A majority of TRI chemical waste managed originated from the chemical manufacturing sector (55%).

The following pie chart shows the industry sectors that reported the most disposal or other releases for 2018.



This pie chart shows that 4 of the 29 TRI reporting sectors reported 79% of the quantities of TRI chemicals disposed of or otherwise released: metal mining (47%), chemical manufacturing (14%), electric utilities (9%), and primary metals (9%).

For more details on how the amounts and proportions of TRI chemicals managed as waste have changed over time, see the production-related waste managed by industry trend graph.

For more information on the breakdown of these releases by environmental medium, see air releases by industry, water releases by industry and land disposal by industry.

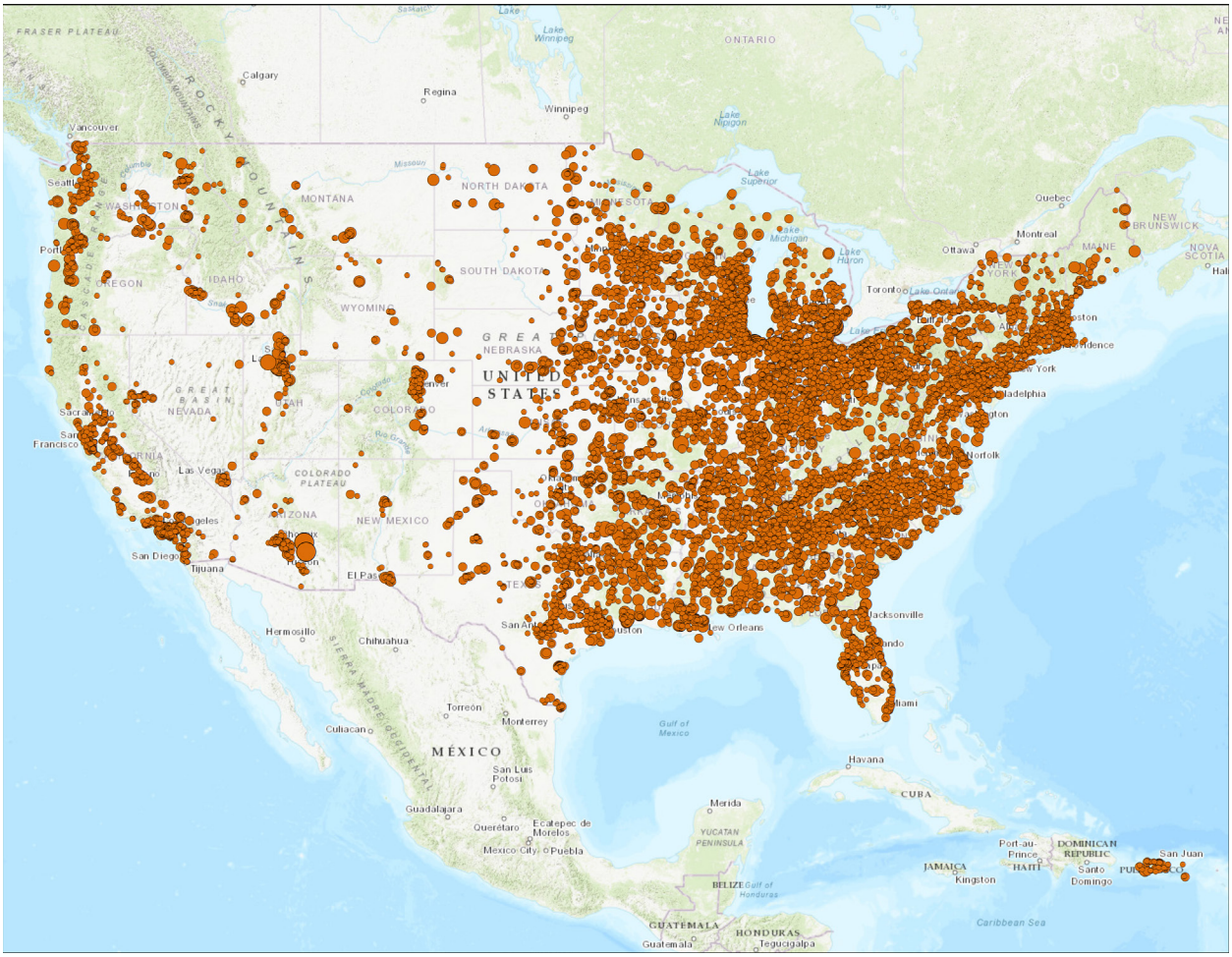
As with any dataset, there are several factors to consider when using the TRI data. Key factors associated with data presented are summarized in the Introduction. For more information see Factors to Consider When Using Toxics Release Inventory Data. Also note that the list of TRI chemicals has changed over the years. For comparability, trend graphs include only those

chemicals that were reportable for all years presented. Figures that focus only on the year 2018 include all chemicals reportable for 2018, therefore, values for a 2018-only analysis may differ slightly from results for 2018 in a trend analysis.

Manufacturing Sectors

This section examines how TRI chemical wastes are managed in the manufacturing sectors.

This map shows the locations of the manufacturing facilities (defined as facilities reporting their primary NAICS codes as 31-33) that reported to TRI for 2018. Click on a facility for details on its TRI reporting.



Manufacturing Facilities Reporting to TRI, 2018

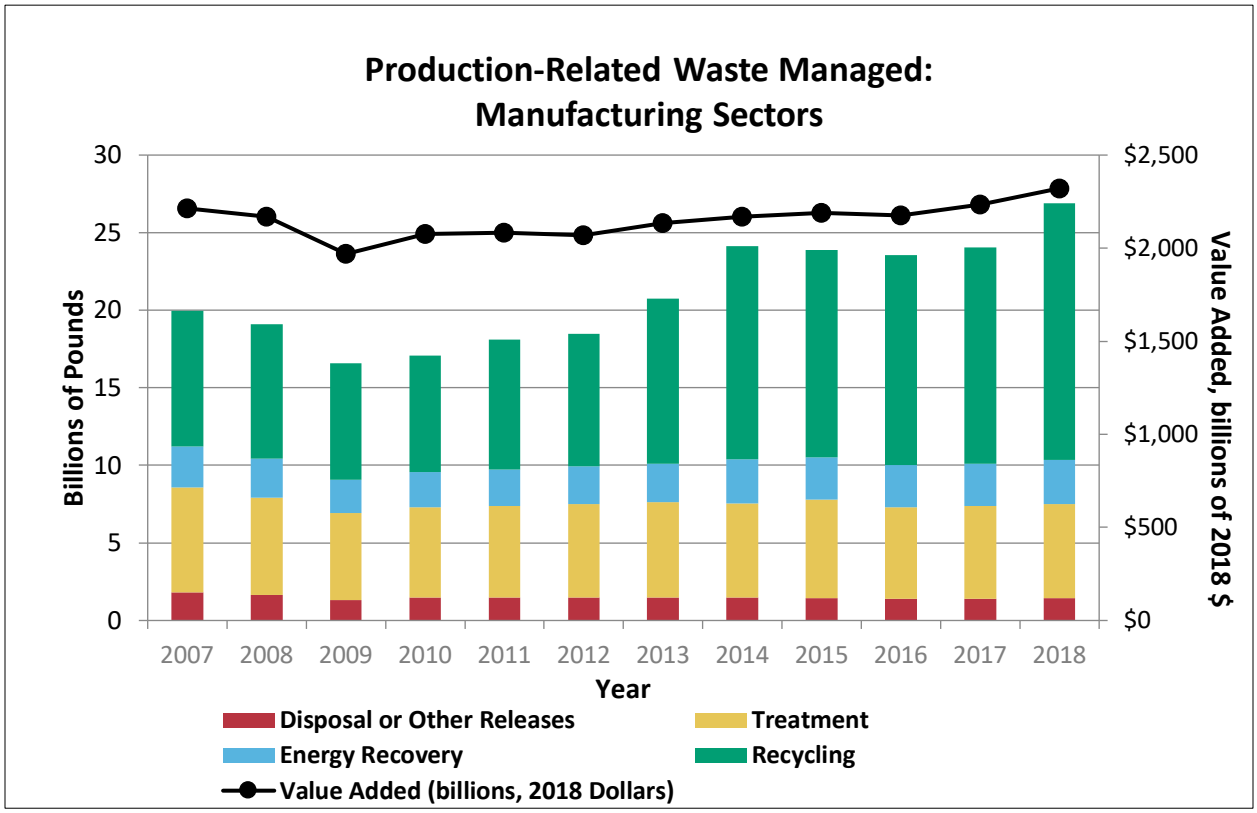
View Larger Map

For 2018, nearly 90% of the facilities that reported to TRI were in a manufacturing sector. These sectors accounted for most (88%) of the 32.1 billion pounds of production-related waste reported to TRI for 2018. Two subsectors of manufacturing, chemical manufacturing and aerospace manufacturing, are highlighted in more detail later in this section.

The TRI-covered industry sectors not categorized under manufacturing include metal mining, coal mining, electric utilities, chemical wholesalers, petroleum terminals, hazardous waste management, and others.

Waste Management Trend

The following graph shows the annual quantities of TRI chemicals managed as waste by the manufacturing sectors.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Production-related waste managed by the manufacturing sectors decreased through 2009, following the trend of reduced production resulting from the economic recession. Since 2009, total quantities of waste managed have increased.
    - Quantities of waste released and treated decreased, while the quantity of waste combusted for energy recovery and waste recycled increased.
- It is important to consider the influence the economy has on production and production-related waste generation. This figure includes the trend in the manufacturing sectors' value added (represented by the black line as reported by the Bureau of Economic Analysis, Value Added by Industry). Value added is a measure of production that is defined as the contribution of these manufacturing sectors to the national gross

domestic product. Since 2007, value added by the manufacturing sectors increased by 5%.

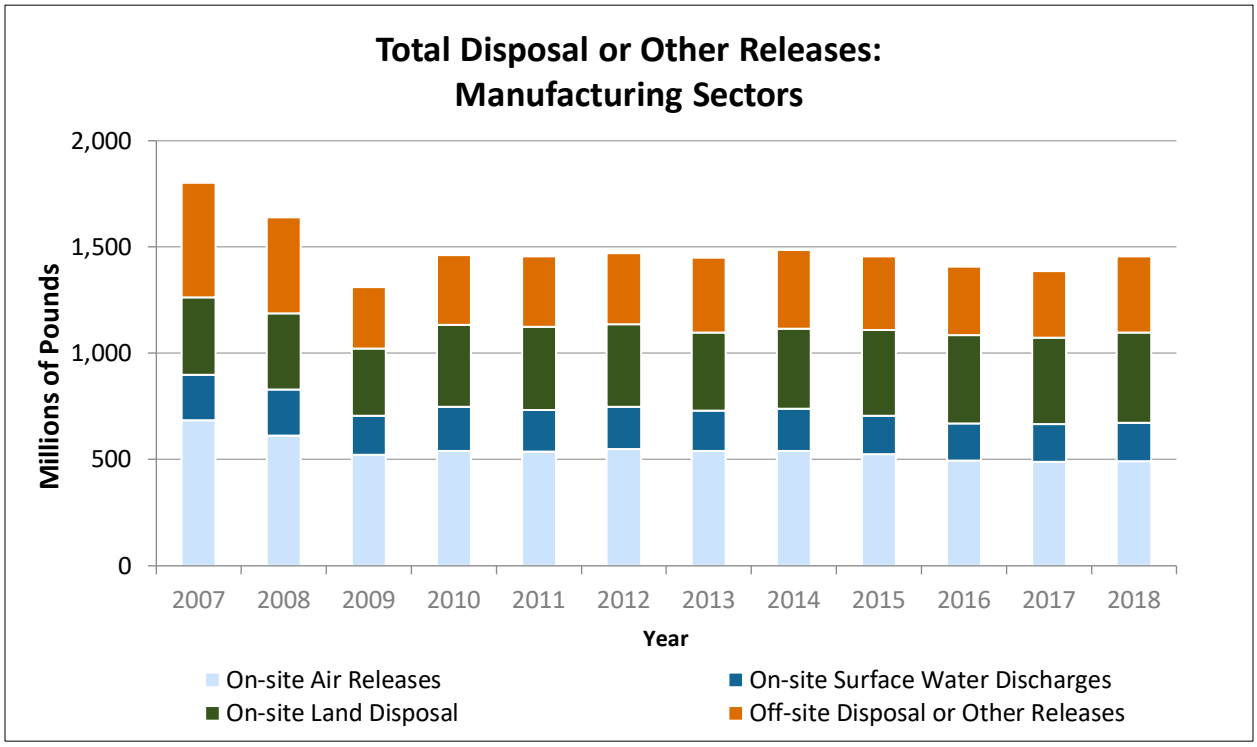
- Production-related waste managed by the manufacturing sectors increased by 35% since 2007, driven by increased recycling. The large increase in recycled chemical waste starting in 2014 was primarily due to an increase in the quantity of cumene recycled by one facility and dichloromethane recycled by two other facilities.

From 2017 to 2018:

- Production-related waste managed increased by 11% (2.87 billion pounds). This increase was largely due to a single facility that reported recycling 2.0 billion pounds of dichloromethane on site in 2018. This facility did not previously report recycling this chemical on site. The facility claimed that for the 2018 reporting year, it had reviewed and reinterpreted the TRI Program's guidance on estimating recycling quantities of TRI chemicals, which is the reason the facility reported recycling such a large quantity of dichloromethane on site during 2018 compared to 2017. Excluding this amount for 2018, the total quantity of the manufacturing sectors' production-related waste managed increased by 4%.
- In 2018, only 5% of the manufacturing sectors' production-related waste was released into the environment, while the rest was managed through treatment, energy recovery, and recycling.

Manufacturing Releases Trend

The following graph shows the annual quantities of TRI chemicals released by the manufacturing sectors.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Total releases by the manufacturing sectors decreased by 19%. This is primarily due to a reduction in air emissions and off-site disposal or other releases.
- Releases to water also declined, while on-site land disposal increased by 17%.

From 2017 to 2018:

- Total releases increased by 5% (70 million pounds). This is largely due to a 15% increase (48 million pounds) in off-site releases.

Source Reduction in the Manufacturing Sectors:

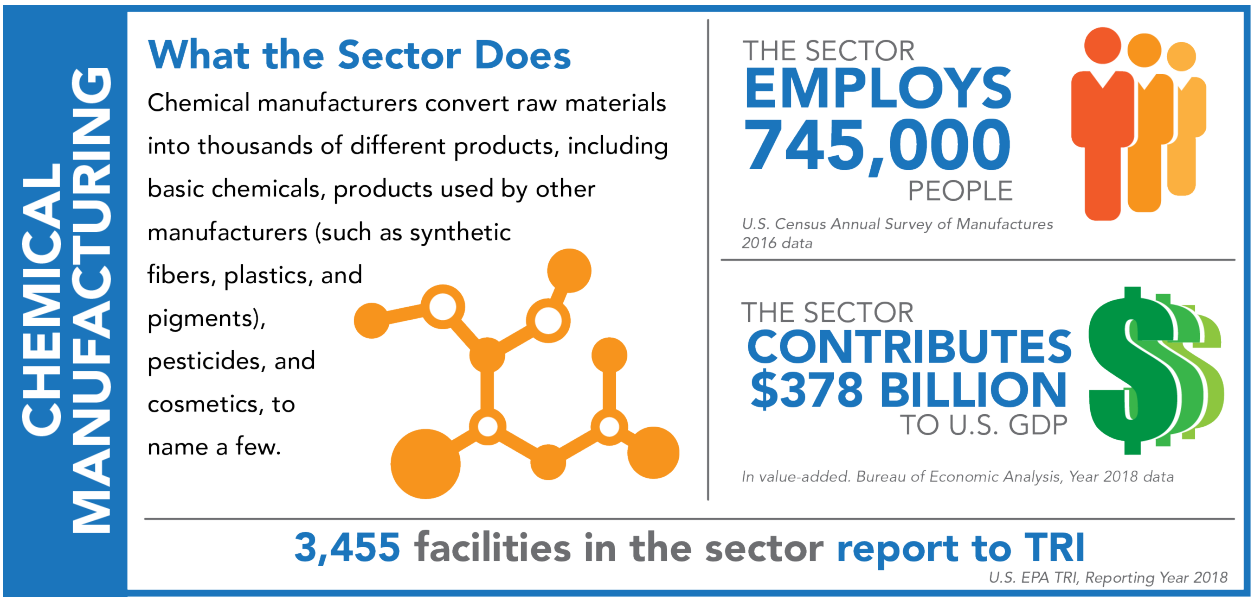
In 2018, 6% of manufacturing facilities initiated more than 2,800 source reduction activities to reduce TRI chemical use and waste generation. The most commonly reported types of source reduction activitites were good operating practices and process modifications. For example:

- A metal container manufacturing facility changed the scheduling of drum production to minimize the number of color changes necessary, thus reducing its use of certain glycol ethers. [Click to view facility details in the Pollution Prevention (P2) Tool]
- A biodiesel manufacturer reported adding a methanol recovery system to reuse the chemical in the process. [Click to view facility details in the P2 tool].

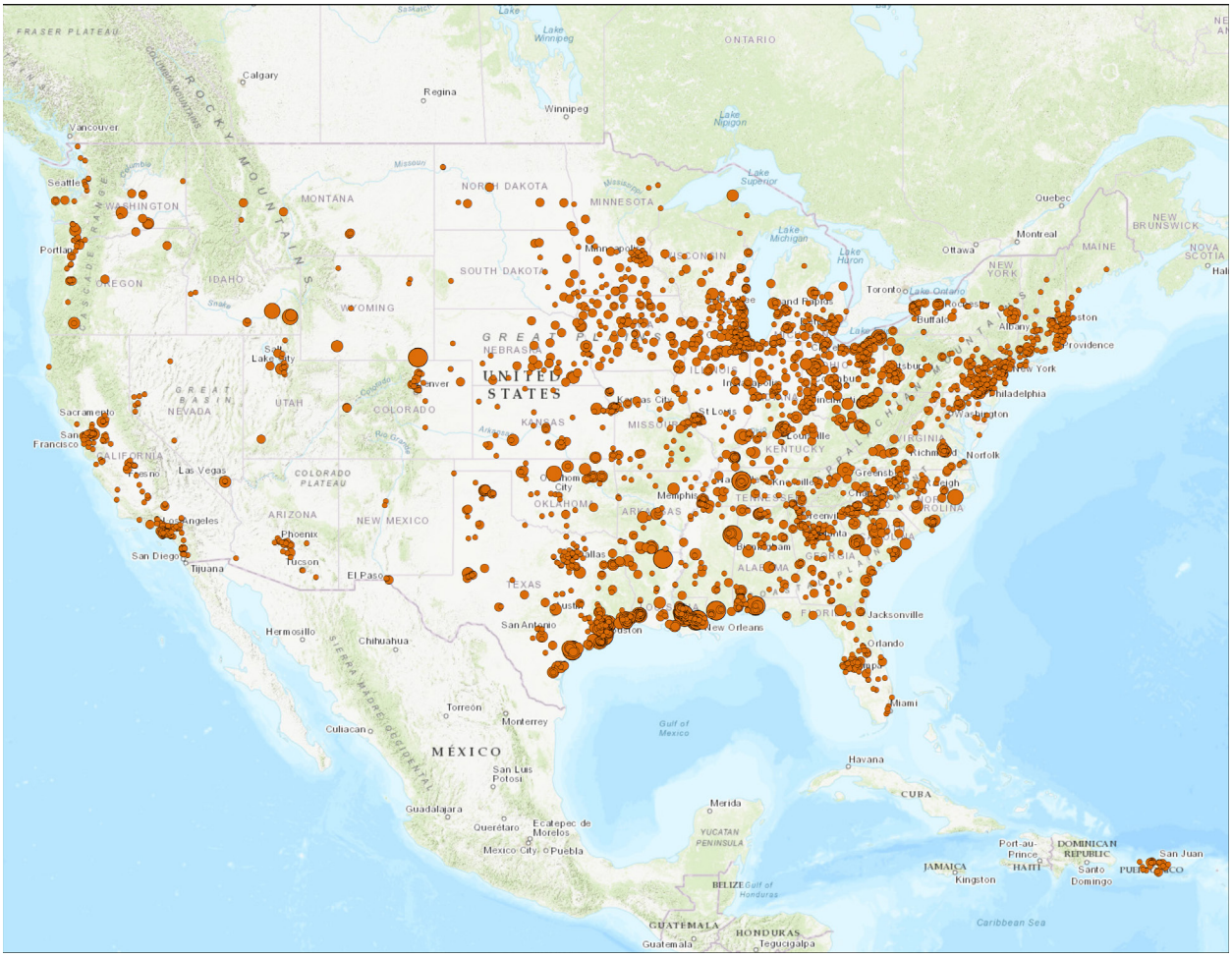
You can learn more about pollution prevention opportunities in this sector by using the TRI Pollution Prevention (P2) Search Tool

Chemical Manufacturing

This section examines how TRI chemical wastes are managed in the chemical manufacturing sector.



This map shows the locations of the chemical manufacturing facilities (defined as facilities reporting their primary NAICS code as 325) that reported to TRI for 2018. Click on a facility for details on its TRI reporting.



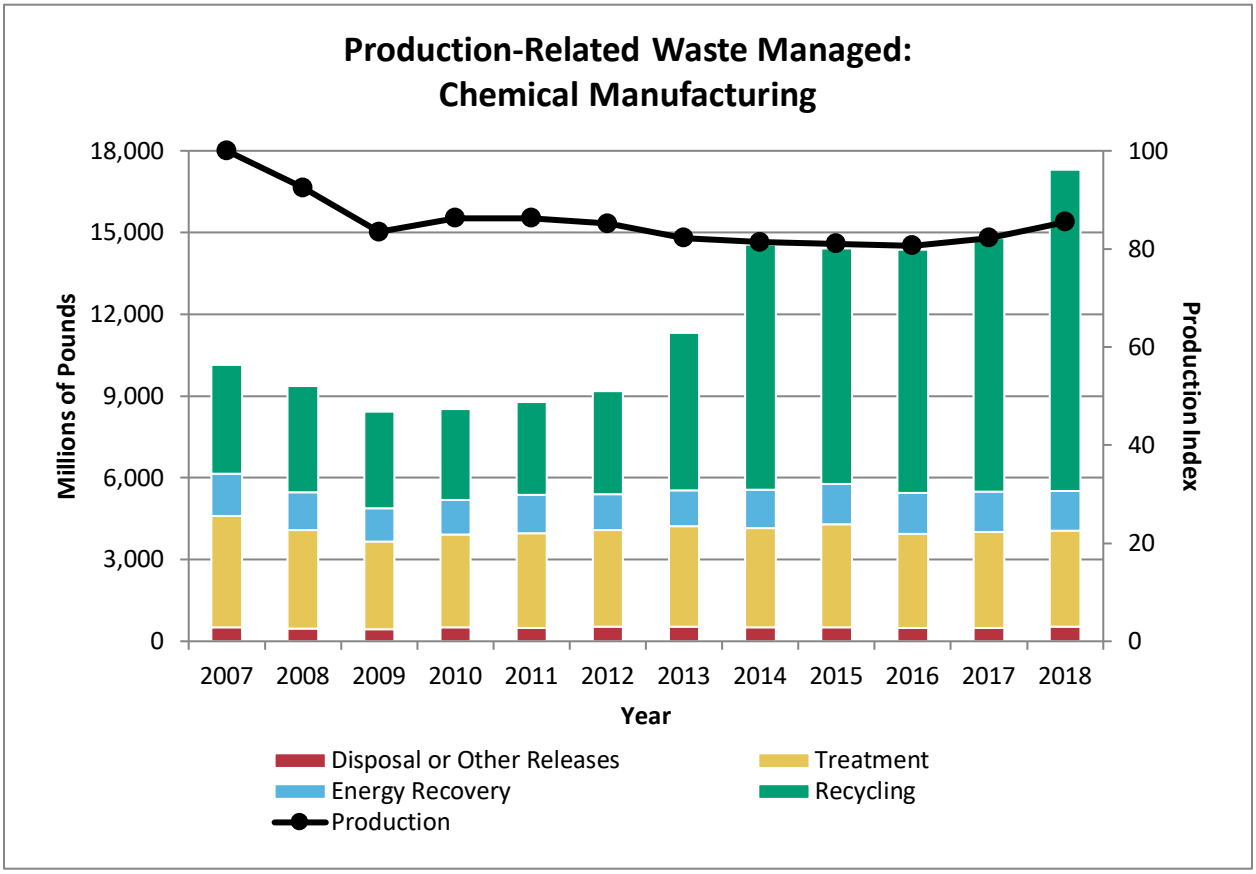
Chemical Manufacturing Facilities Reporting to TRI, 2018

View Larger Map

For 2018, the chemical manufacturing sector had the most facilities (3,455, 16% of facilities that reported for 2018) report to the Toxics Release Inventory (TRI) and reported 55% of all production-related waste managed, more than any other sector.

Chemical Manufacturing Waste Management Trend

The following graph shows the annual quantities of TRI chemicals managed as waste by the chemical manufacturing sector.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Production-related waste managed by the chemical manufacturing sector increased by 71%, while production volume (represented by the black line as reported by the Federal Reserve Board, Industrial Production Index) decreased by 15%. In recent years, production has been fairly constant and increased in 2018.
    - The large increase in reported quantities of waste recycled starting in 2014 was primarily due to increased quantities of recycling reported by chemical manufacturers, with an increase in the quantity of cumene recycled by one facility and dichloromethane recycled by two other facilities.

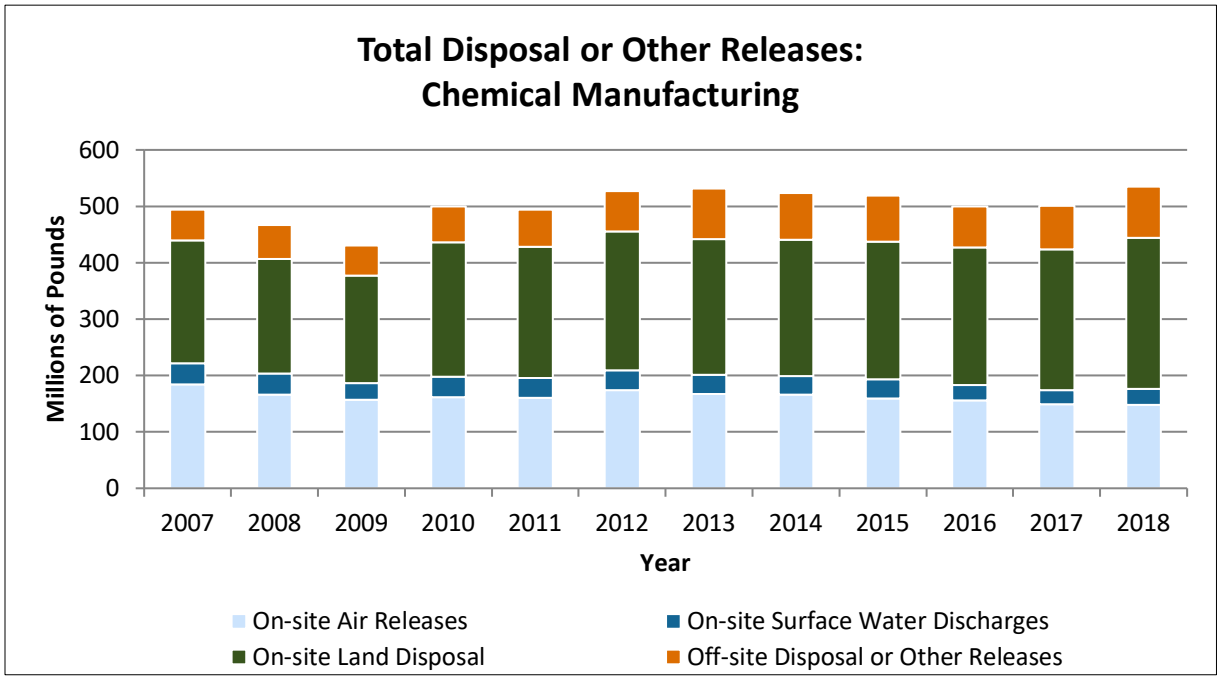
- Quantities of TRI chemicals treated or combusted for energy recovery decreased, while the quantities of TRI chemicals recycled and released increased.

From 2017 to 2018:

- Production-related waste managed at chemical manufacturing facilities increased by 2.5 billion pounds (16%), while production volume increased by 4%.
    - The increase in production-related waste is largely due to a 2.0 billion pound increase in the quantity of dichloromethane reported as recycled by one chemical manufacturing facility [click to view facility details in the P2 tool]. The facility claimed that for the 2018 reporting year, it had reviewed and reinterpreted the TRI Program's guidance on estimating recycling quantities of TRI chemicals, which is the reason the facility reported recycling such a large quantity of dichloromethane on site during 2018 compared to 2017.
- In 2018, only 3% of this sector's waste was managed as releases into the environment, while the rest was managed through treatment, energy recovery, and recycling.

Chemical Manufacturing Releases Trend

The following graph shows the annual quantities of TRI chemicals released by the chemical manufacturing industry.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Total releases by the chemical manufacturing sector increased by 8%.
- The distribution of releases has changed during this time period. This change has been driven largely by decreased air releases of common chemicals including methanol, hydrochloric acid, and carbonyl sulfide and increased on-site land disposal, particularly for metal compounds.

From 2017 to 2018:

- Total releases increased by 38 million pounds (7%).
- For 2018, the chemical manufacturing sector reported larger air release quantities than any other sector, accounting for 25% of all reported quantities of TRI chemicals emitted to air.

Source Reduction in the Chemical Manufacturing Sector:

Although chemical manufacturing has consistently been the sector with the most production-related waste managed, 280 facilities (8% of facilities) in this sector initiated source reduction activities in 2018 to reduce their TRI chemical use and waste generation. The most commonly reported types of source reduction activities were good operating practices and process modifications. For example,

- An organic chemical manufacturing facility reduced hydroquinone waste by improving the heating system of its outdoor storage tanks to reduce the quantity of sludge formed. Minimizing sludge formation reduces the facility's hazardous waste generated. [Click to view facility details in the Pollution Prevention (P2) Tool]
- A fertilizer manufacturing facility began transitioning to using chlorine dioxide instead of chlorine for cooling water treatment. The transition is expected to eliminate the storage of up to 16,000 pounds of chlorine on site. [Click to view facility details in the P2 Tool]

Additional Resources

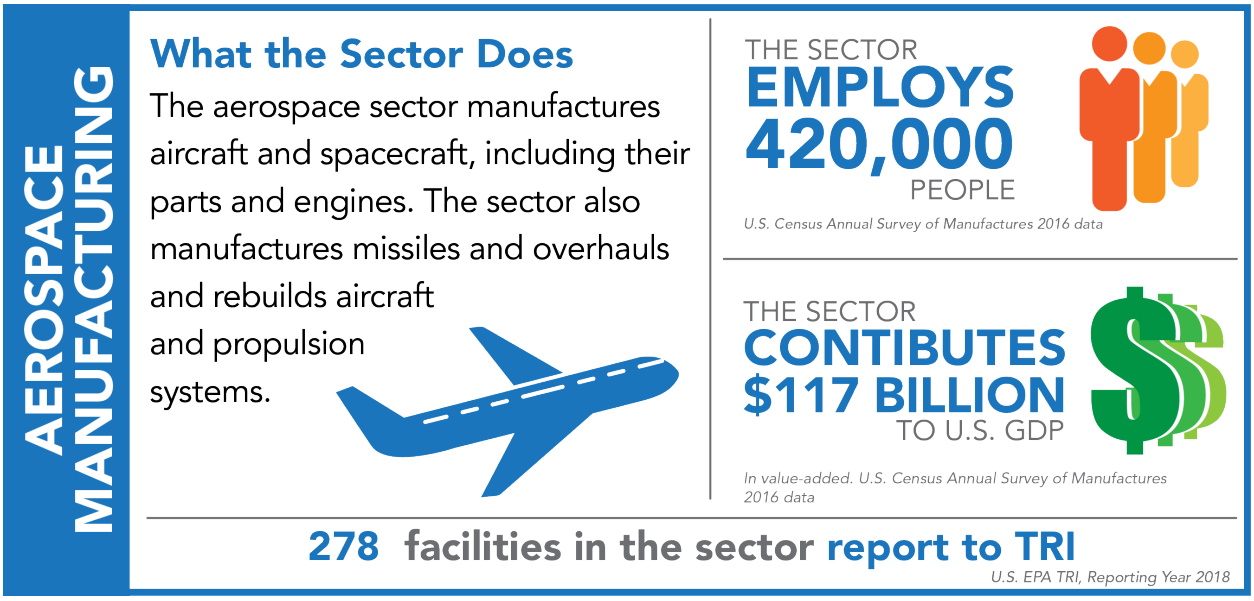
EPA's Smart Sectors Program is partnering with chemical manufacturing trade associations to develop sensible approaches that better protect the environment and public health.

TRI's Pollution Prevention Qlik Dashboard can help you learn more about production-related waste, releases, and pollution prevention opportunities in this sector.

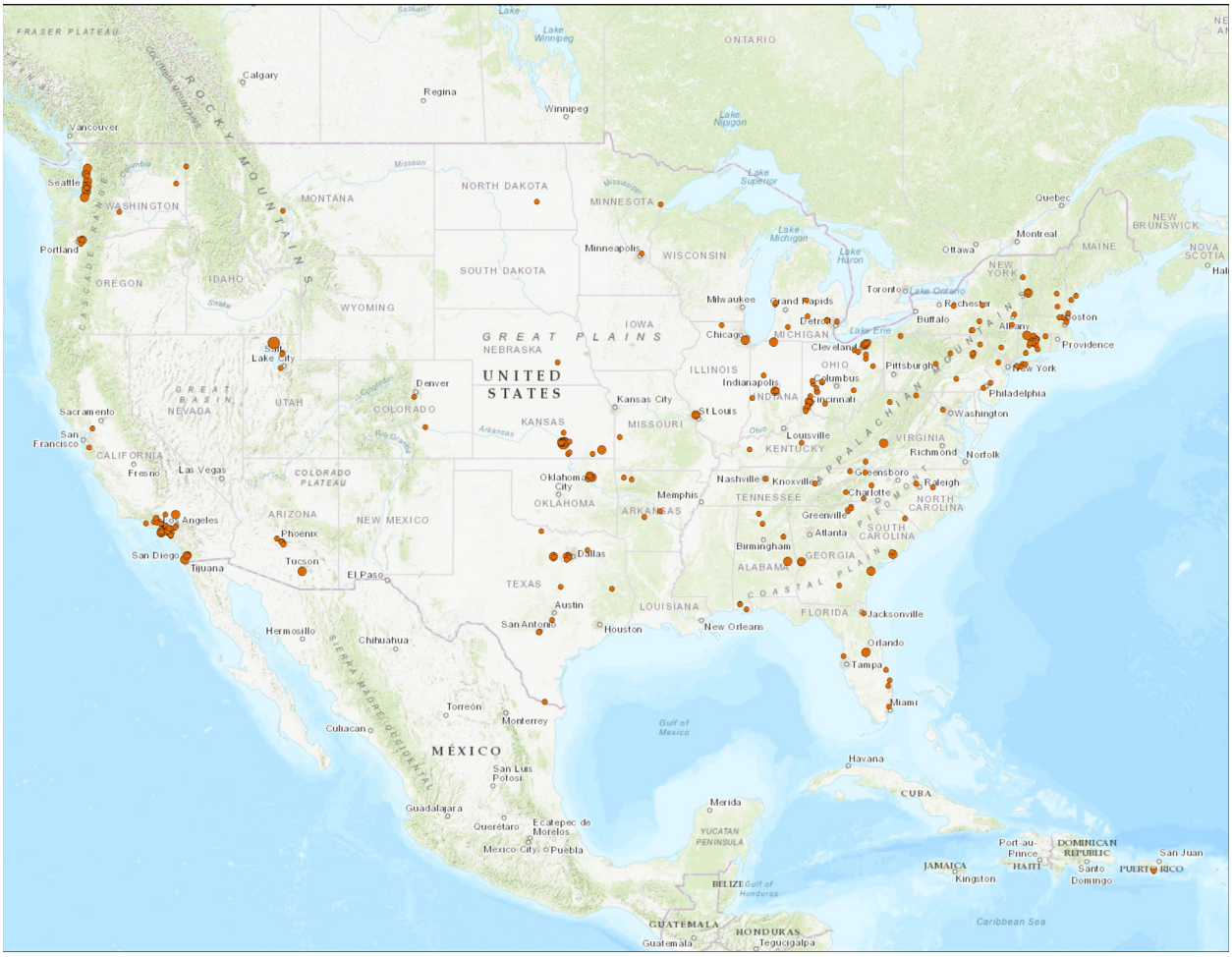
For more information on how this and other industry sectors can choose safer chemicals, visit EPA's Safer Choice Program pages for Alternatives Assessments and the Safer Choice Ingredients List.

Aerospace Manufacturing

This section examines how TRI chemical wastes are managed in the aerospace manufacturing sector.



This map shows the locations of the aerospace manufacturing facilities (defined as facilities reporting their primary NAICS code as 3364) that reported to TRI for 2018. Click on a facility for details on its TRI reporting.



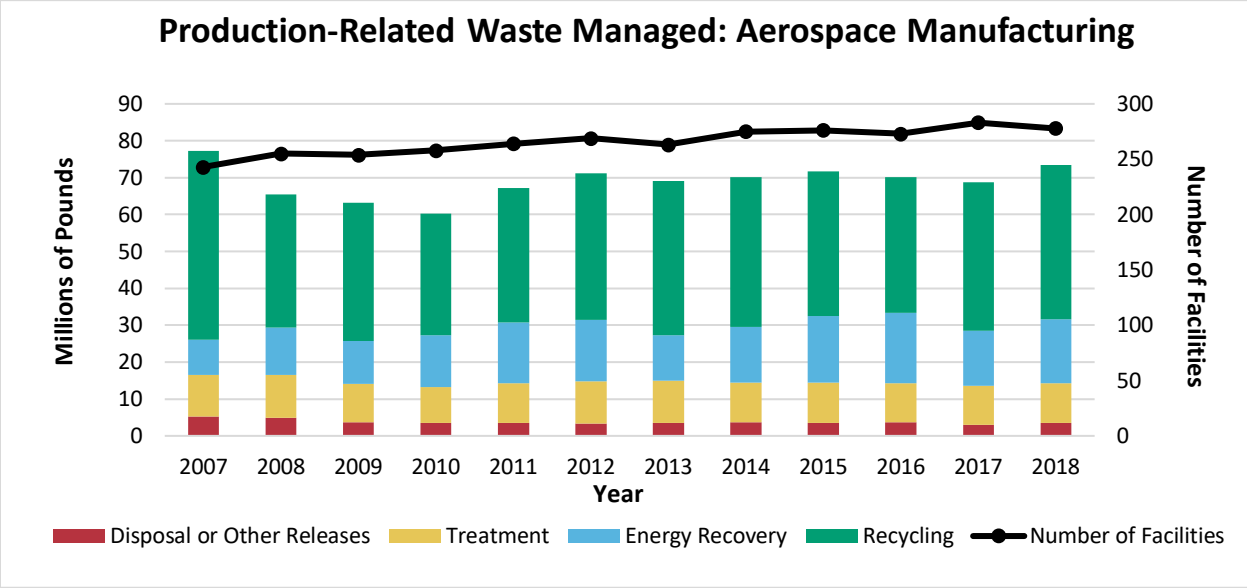
Aerospace Facilities Reporting to TRI, 2018

View Larger Map

For 2018, 278 aerospace manufacturing facilities reported to TRI. Most of the facilities reporting to TRI in this sector manufacture aircraft or aircraft parts and equipment, including engines. The remaining facilities manufacture guided missiles or space vehicles and their parts and equipment.

Aerospace Manufacturing Waste Management Trend

The following graph shows the annual quantities of TRI chemicals managed as waste by the aerospace manufacturing industry.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

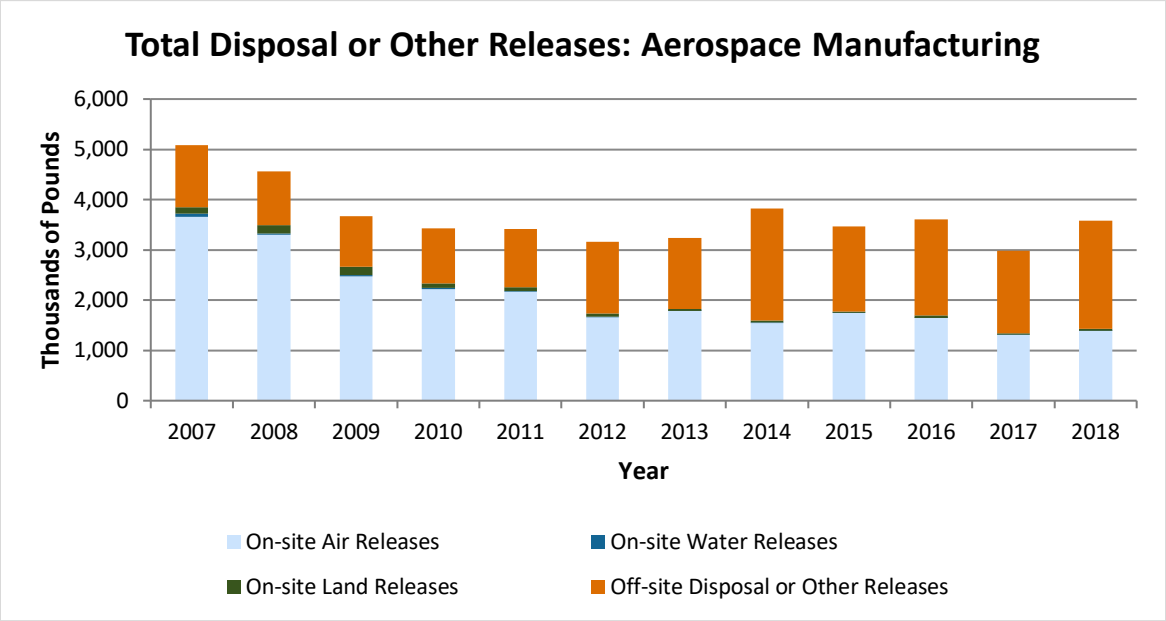
- Although production-related waste managed by the aerospace manufacturing sector fluctuated between years, the quantity of waste managed in 2018 is 3.8 million pounds (5%) less than it was in 2007, while the number of facilities increased from 243 to 278 (14%).

From 2017 to 2018:

- Production-related waste managed increased by 4.8 million pounds (7%), largely due to an aircraft parts manufacturing facility which reported an increase of over 3 million pounds of waste managed through energy recovery from 2017 to 2018. [Click to view facility details in the Pollution Prevention (P2) Tool]
- In 2018, only 5% of this sector's waste was released into the environment, while the rest was managed through treatment, energy recovery, and recycling.

Aerospace Manufacturing Releases Trend

The following graph shows the annual quantities of TRI chemicals released by the aerospace manufacturing industry.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Total releases by the aerospace manufacturing sector decreased by 29%.
    - The decrease in releases was mainly driven by large releases of hydrochloric acid to air by one aerospace products and parts manufacturing facility in 2007 and 2008, followed by smaller releases in subsequent years. [Click to view facility details in the Pollution Prevention (P2) Tool]

From 2017 to 2018:

- Total releases increased by 591 thousand pounds (19%). The increase in releases was not driven by any one facility.

Source Reduction in the Aerospace Manufacturing Sector:

Between 2010 and 2018, the aerospace manufacturing sector had a higher than average rate of initiating source reduction activities compared with the rate across all industries that report to TRI. For 2018, 8% of facilities in the aerospace manufacturing sector reported source reduction activities, compared to 6% of all facilities that reported to TRI.

The most commonly reported types of source reduction activities in the aerospace manufacturing sector were good operating practices and inventory control. Several facilities in this sector reported initiating source reduction activities to reduce scrap generation. Note that minimizing the generation of scrap metal is a source reduction activity, while recycling scrap metal is a waste management practice. Examples of source reduction activities reported by the sector include:

- An aircraft engine manufacturing facility revised dimensions for raw material purchases to reduce scrap created by cutting pieces to fit production. [Click to view facility details in the P2 Tool]
- An aircraft manufacturing facility installed a non-chemical floor coating that is removable which eliminated the need to clean booth floors with a product containing toluene. [Click to view facility details in the Pollution Prevention (P2) Tool]

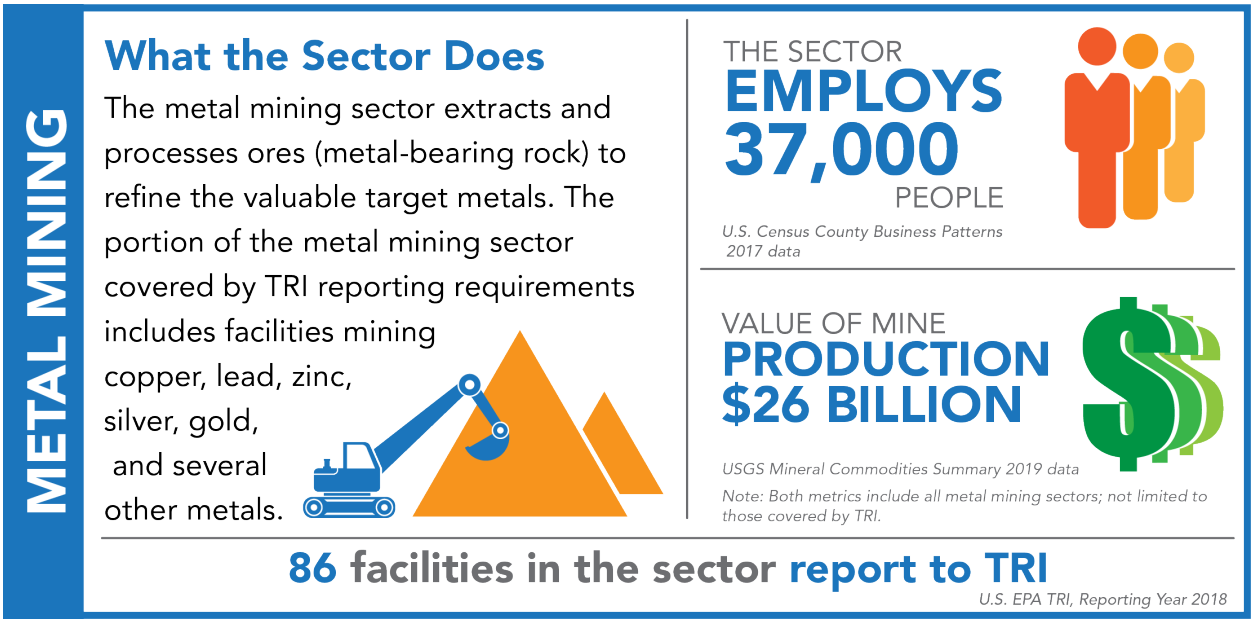
Additional Resources

EPA's Smart Sectors Program is partnering with the aerospace sector to develop sensible approaches that better protect the environment and public health.

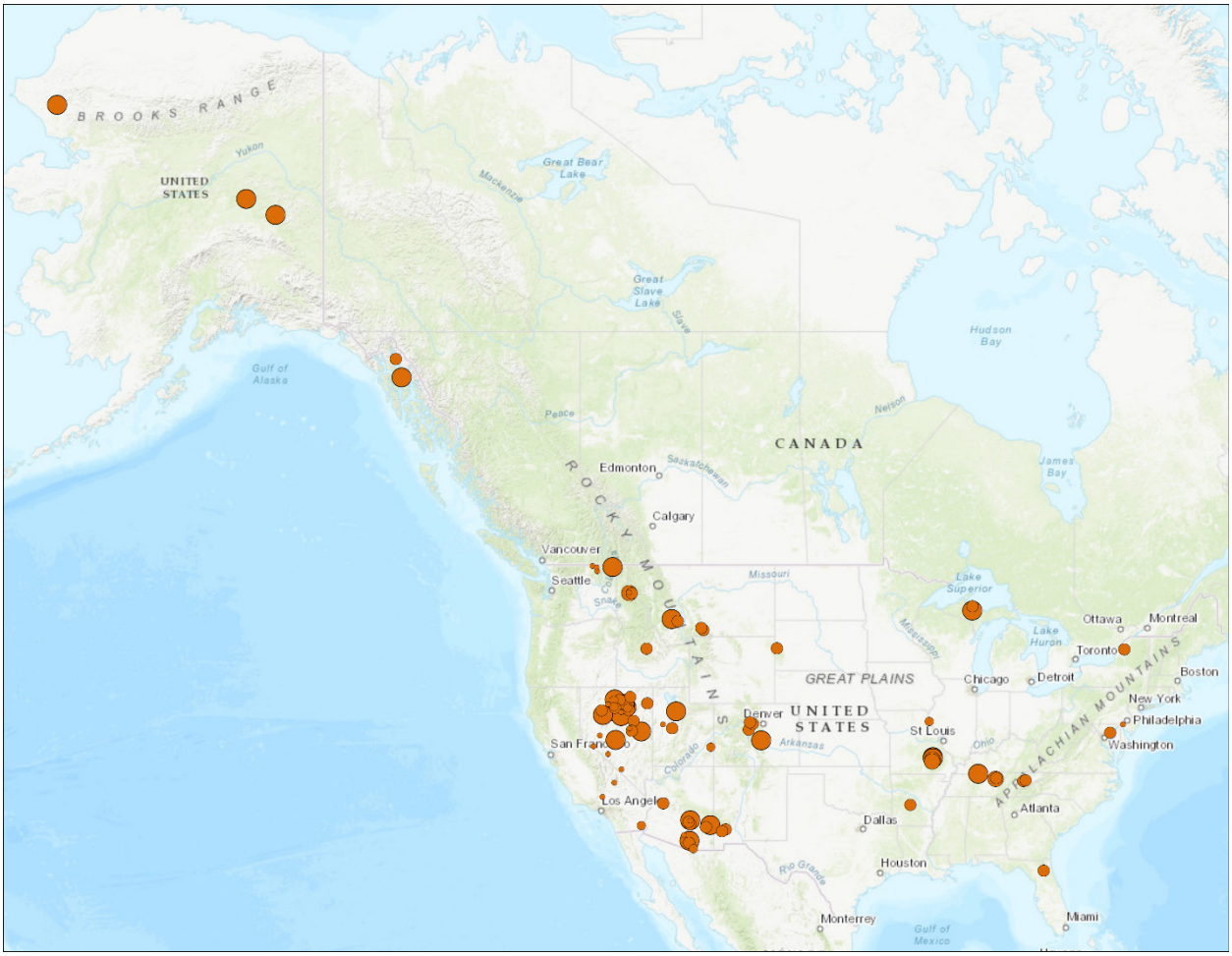
TRI's Pollution Prevention Qlik Dashboard can help you learn more about production-related waste, releases, and pollution prevention opportunities in this sector.

Metal Mining

This section examines how TRI chemical wastes are managed in the metal mining sector.



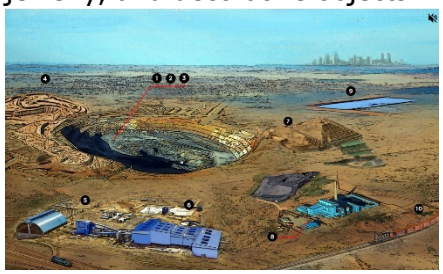
This map shows the locations of the metal mining facilities (defined as facilities reporting their primary NAICS code as 2122) that reported to TRI for 2018. Click on a facility for details on its TRI reporting. Mines are shown on this map based on their longitude/latitude, which may be miles from the city identified on the mine's TRI reporting forms. Mines can qualify their location relative to the city by noting the distance in the street address data field of their TRI reporting forms.



Metal Mines Reporting to TRI, 2018

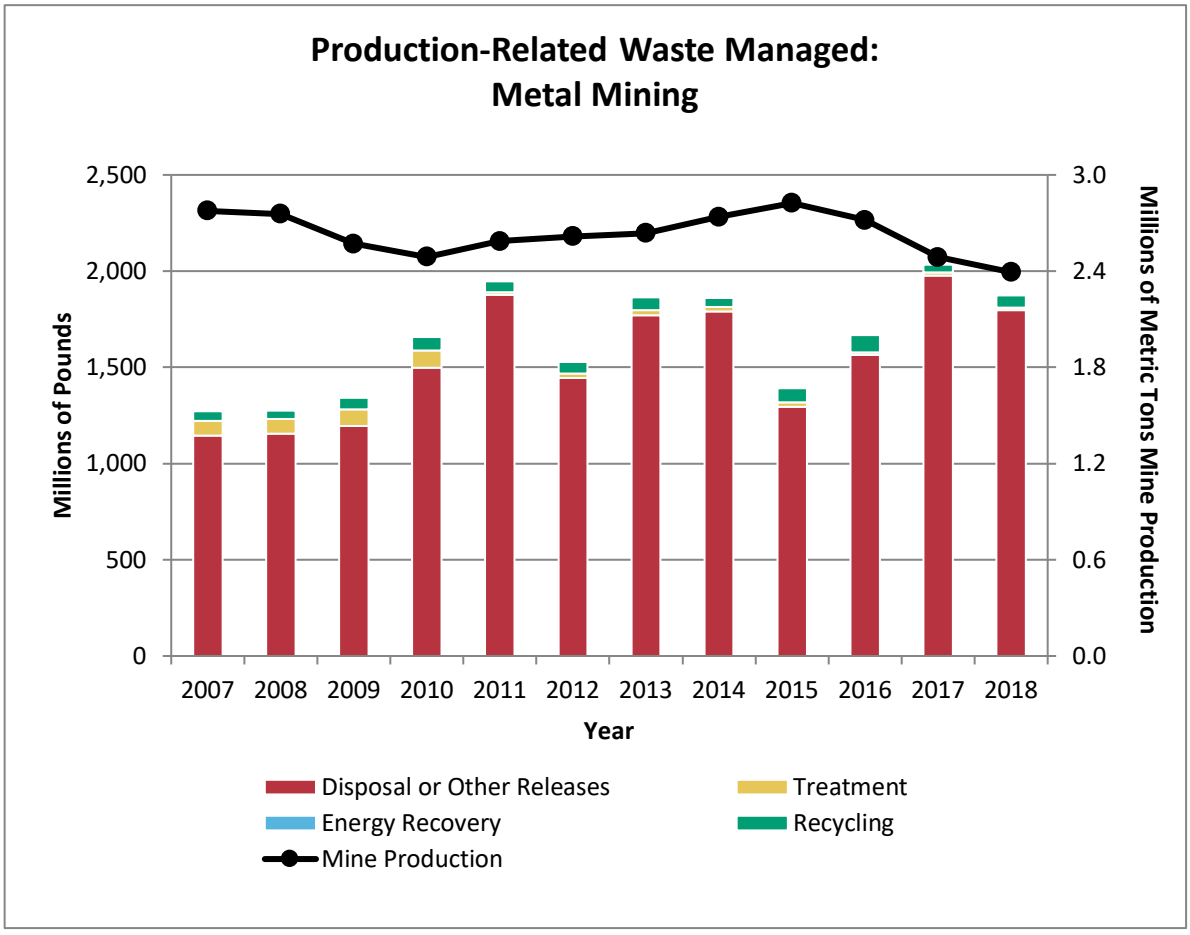
View Larger Map

For 2018, 86 metal mining facilities reported to TRI. They tend to be in western states where most of the copper, silver, and gold mining occurs; however, zinc and lead mining tend to occur in Missouri and Tennessee, as well as Alaska. Metals generated from U.S. mining operations are used in a wide range of products, including automobiles, electric and industrial equipment, jewelry, and decorative objects. The extraction and processing of these minerals generate large amounts of on-site land disposals, primarily of metals included on the TRI list of chemicals contained in the ore and waste rock. To learn more about metal mining operations and their TRI reporting, explore the interactive metal mining diagram. Metal mining operations are subject to federal and state regulations.



Metal Mining Waste Management Trend

The following graph shows the annual quantities of TRI chemicals managed as waste by the metal mining industry from 2007 to 2018, mainly in the form of on-site land disposal.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

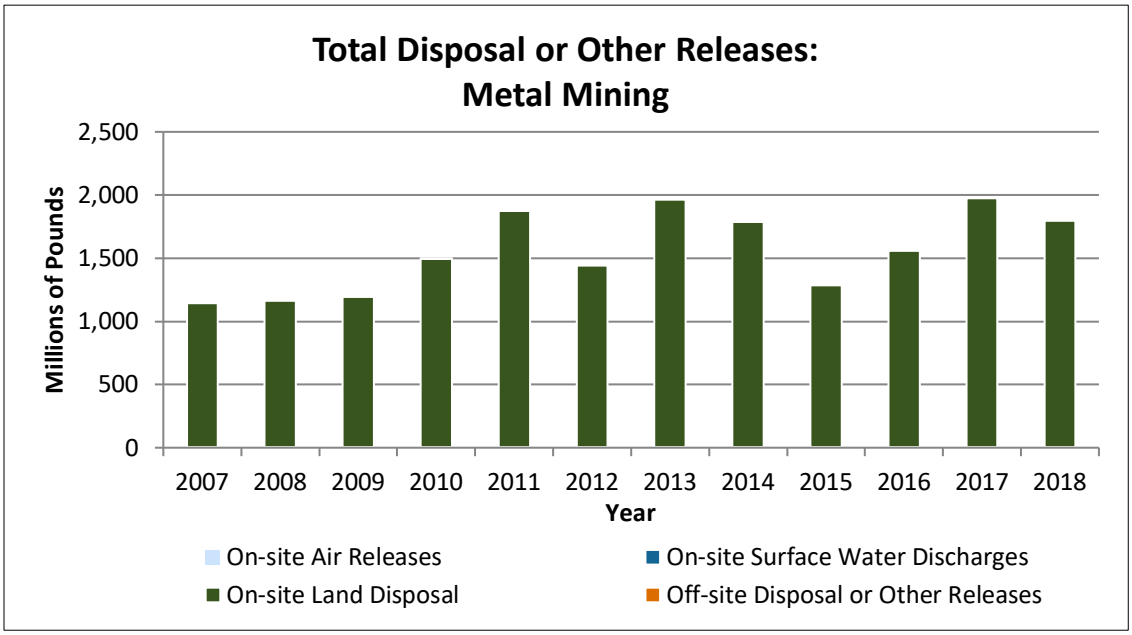
- While metal mining production (as reported in the United States Geological Survey) remained relatively steady, the quantity of waste managed fluctuated.
- Besides production volume, one factor commonly cited by facilities as a contributor to the changes in quantities of waste managed is the chemical composition of the extracted ore, which can vary substantially from year to year. In some cases, small changes in the ore's composition can impact whether chemicals in ore qualify for a concentration-based exemption from TRI reporting in one year but not in the next year or vice versa.

From 2017 to 2018:

- The quantity of TRI chemical waste managed by this sector decreased by 160 million pounds (8%) between 2017 and 2018.
- During 2018, 96% of the metal mining sector's production-related waste was disposed of or otherwise released. The majority of this waste consisted of metals, which were primarily disposed of to land on site at the mine.

Metal Mining Releases Trend

The following graph shows the annual quantities of TRI chemicals released by the metal mining industry, primarily through on-site land disposal.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- More than 99% of the metal mining sector's releases were in the form of on-site land disposal. The quantity of on-site land disposal by metal mines has fluctuated in recent years.
- Several mines have reported that changes in production volume and changes in the chemical composition of the deposit being mined are the primary causes of fluctuations in the amount of chemicals reported as disposed of on site at the mine.
- Metal mining facilities typically handle large volumes of material, and even a small change in the chemical composition of the deposit being mined can lead to big changes in the amount of TRI chemicals reported.
- The quantity of TRI chemicals released is not an indicator of health risks posed by the chemicals, as described in the Introduction. For more information, see the TRI document, Factors to Consider When Using Toxics Release Inventory Data.

In 2018:

- The metal mining sector reported the largest quantity of total disposal or other releases, accounting for 47% of total TRI releases and 70% of on-site land disposal for all industries.

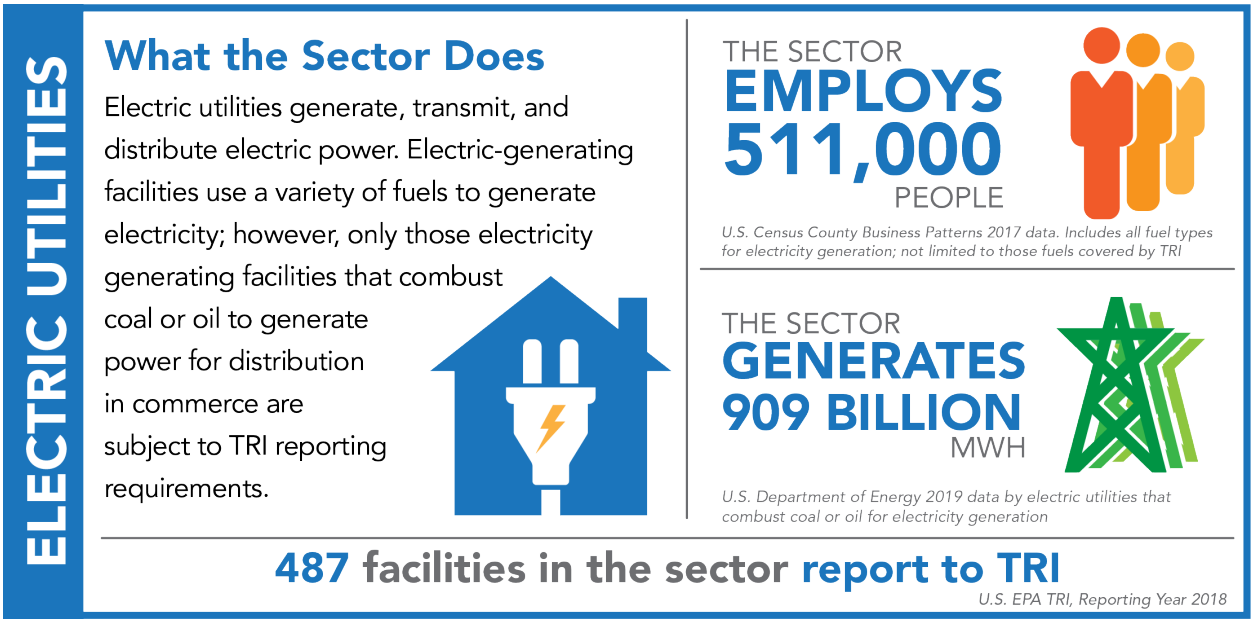
Source Reduction in the Metal Mining Sector:

None of the 86 metal mining facilities reported initiating source reduction activities for TRI chemicals in 2018. Unlike manufacturing, the nature of mining—the necessary movement and disposal of TRI chemicals present in large volumes of earth to access the target ore—does not lend itself to source reduction. TRI's Pollution Prevention Qlik Dashboard can help you learn more about production-related waste, releases, and pollution prevention opportunities in this sector.

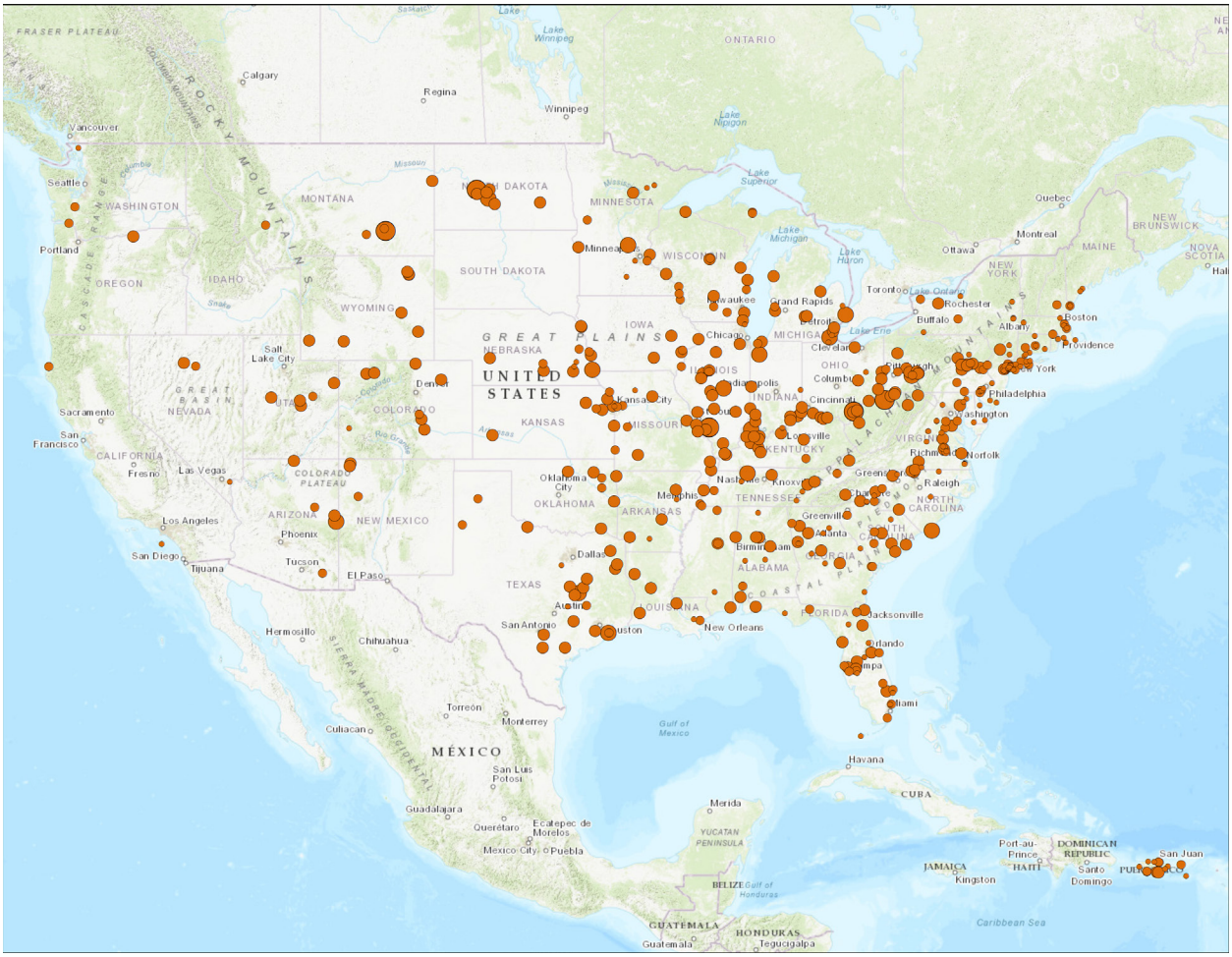
EPA's Smart Sectors Program is partnering with the mining sector to develop sensible approaches that better protect the environment and public health.

Electric Utilities

This section examines how TRI chemical wastes are managed in the electric utilities sector.



This map shows the locations of the electric utilities (defined as facilities reporting their primary NAICS code as 2211) that reported to TRI for 2018. Click on a facility for details on its TRI reporting.



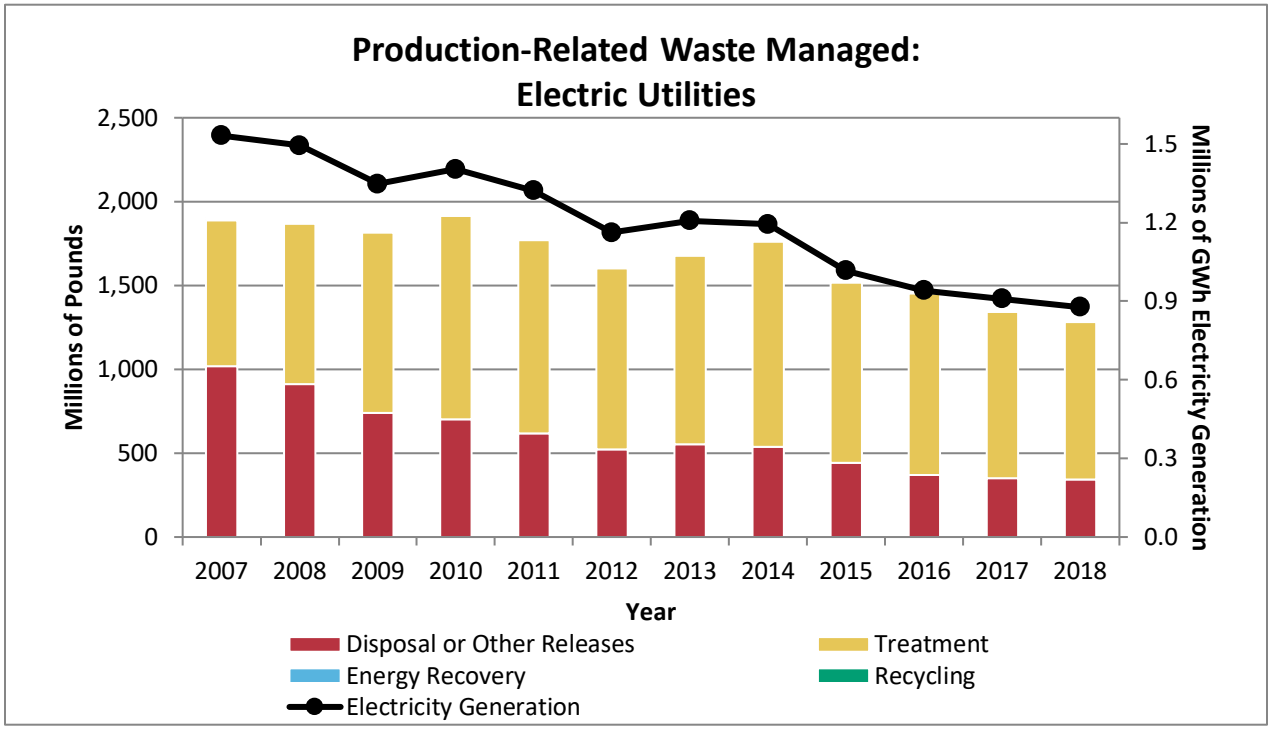
Electric Utilities Reporting to TRI, 2018

View Larger Map

For 2018, 487 electricity generating facilities that combust coal or oil reported to TRI.

Electric Utilities Waste Management Trend

The following graph shows the annual quantities of TRI chemicals that electric utility facilities manage as waste.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Production-related waste managed decreased by 618 million pounds (32%) since 2007, driven by reduced releases.
- Net electricity generation by electric utilities using coal and oil fuels decreased by 43% (as reported by the U.S. Department of Energy's Energy Information Administration). The recent production decrease (beginning in 2014) was driven by the industry's transition to natural gas. Note that only facilities that combust coal or oil to produce power are covered under TRI reporting requirements.

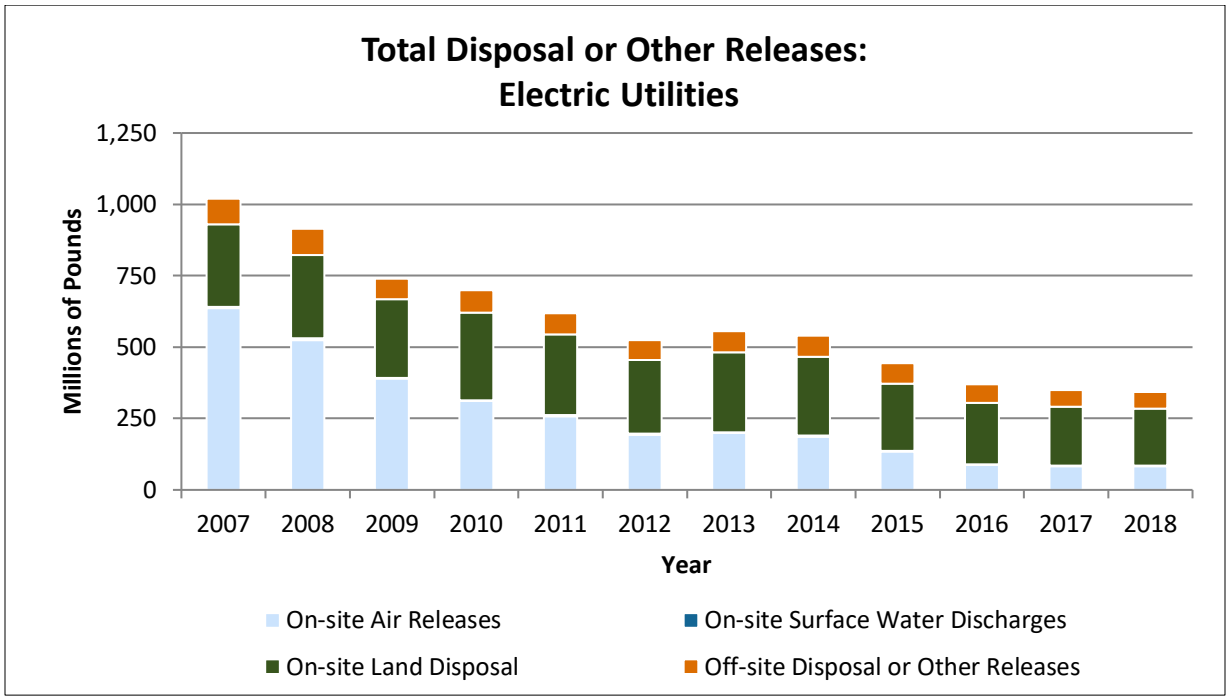
In 2018:

- Approximately three-quarters of the production-related waste was treated, while one-quarter was released to the environment.

- This is in contrast to 2007, when over half of the waste from this sector was released. This trend is largely due to an increase in scrubbers at electric utilities that treat (or destroy) TRI-reportable acid gases to reduce the quantities of the chemicals that would otherwise be released to the air.

Electric Utilities Releases Trend

The following graph shows the annual quantities of TRI chemicals released by electric utilities.



Note: For comparability, trend graphs include only those chemicals that were reportable to TRI for all years presented.

From 2007 to 2018:

- Releases from the electric utilities sector decreased by 66%. This decrease was driven by an 87% (555 million pounds) decrease in on-site air releases. On-site land disposal and off-site disposal also decreased, but to a lesser extent.

From 2017 to 2018:

- Releases by electric utilities decreased by 2% (8.0 million pounds). This decrease was driven by reductions in on-site land disposal to surface impoundments and off-site disposal.

Source Reduction in the Electric Utilities Sector:

In the electric utilities sector, 8 facilities (2% of the electric utility facilities reporting to TRI) initiated source reduction activities in 2018 to reduce their use of TRI chemicals and generation of wastes that contain TRI chemicals. Note that adding treatment equipment is considered a control technology for TRI chemical waste that is generated, and is not a source reduction

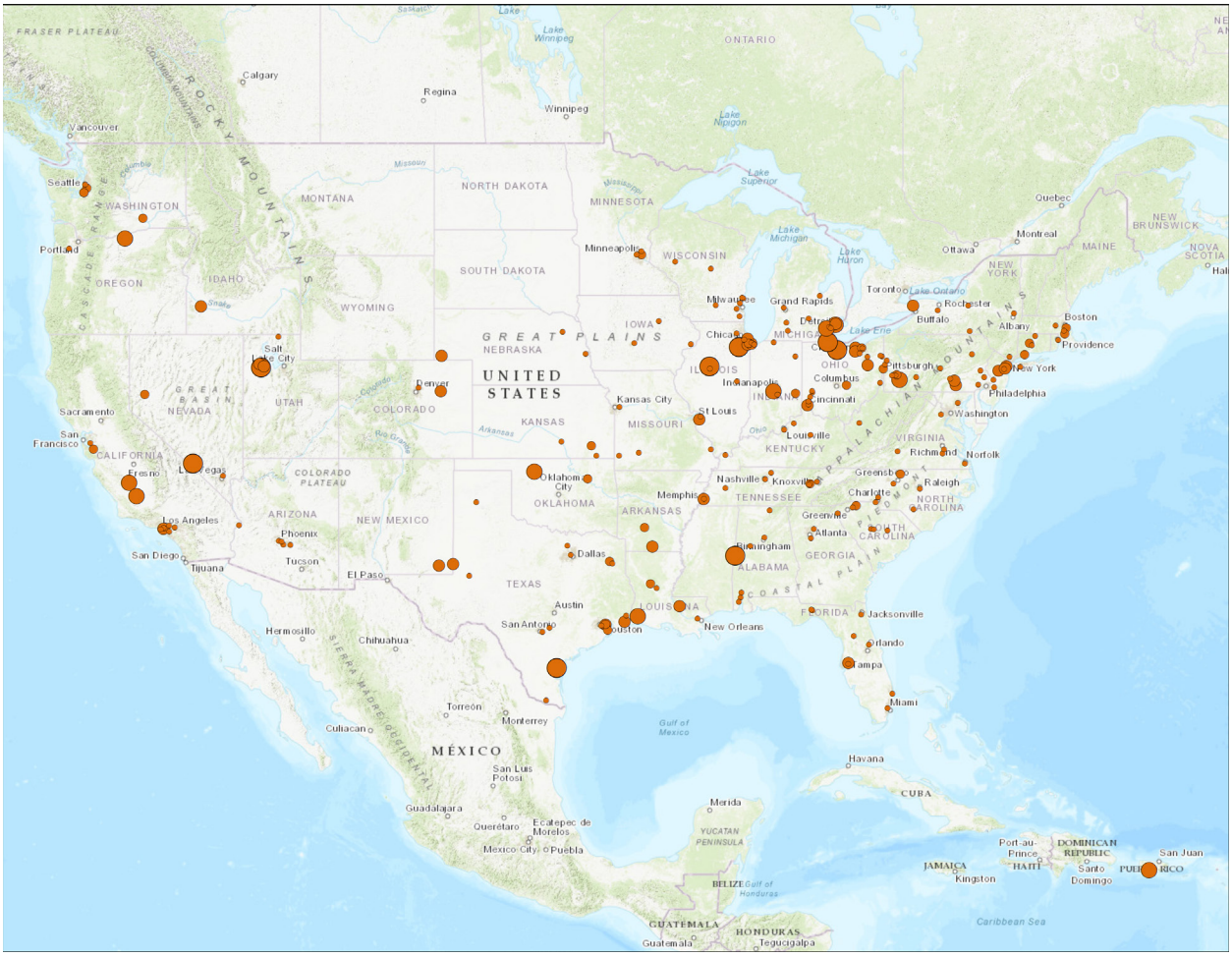
activity that prevents waste from being generated. TRI's Pollution Prevention Qlik Dashboard can help you learn more about production-related waste, releases, and pollution prevention opportunities in this sector.

EPA's Smart Sectors Program is partnering with the sector to develop sensible approaches that better protect the environment and public health.

Hazardous Waste Management

This section examines how TRI chemical wastes are managed in the hazardous waste management sector.

This map shows the locations of the hazardous waste management facilities (defined as facilities reporting their primary NAICS code as 562) that reported to TRI in 2018. Click on a facility for details on its TRI reporting.



Hazardous Waste Management Facilities Reporting to TRI, 2018

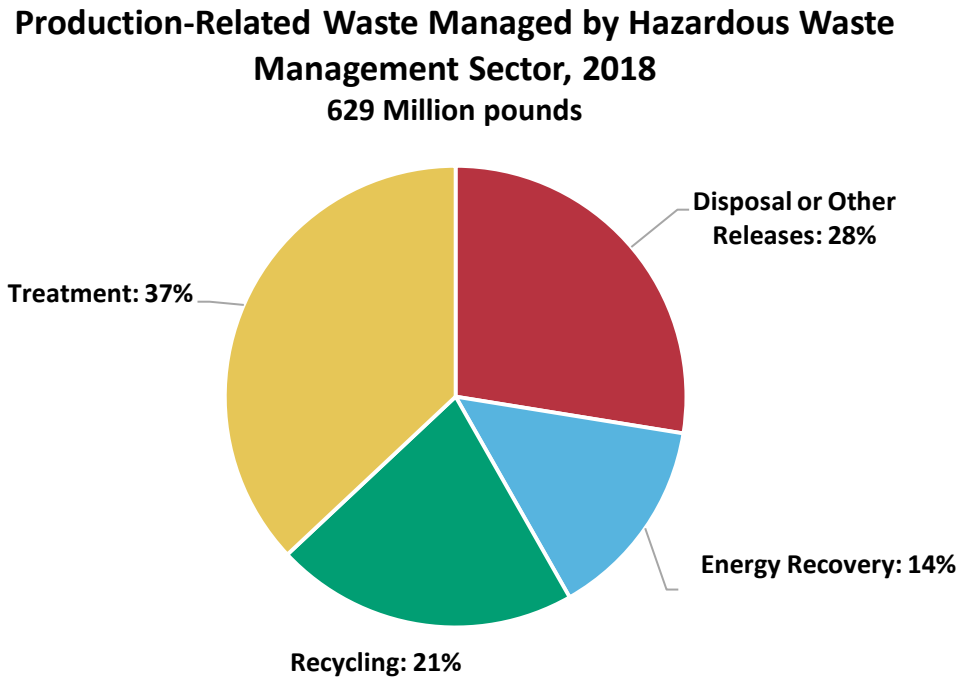
View Larger Map

For 2018, 226 facilities in the hazardous waste management sector submitted 2,591 TRI reporting forms for 341 unique chemicals, averaging 11 forms (i.e., forms for 11 different chemicals) per facility. This is considerably higher than the average of 4 forms submitted per facility across all sectors. The sector also includes seven facilities that each submitted forms for more than 100 chemicals for 2018. The high average number of forms per facility reflects the diversity of the sector's operations where wastes of varying chemical composition are received from many different types of industrial processes.

Given the considerable year-to-year variability in facilities' inputs, examining TRI trends of this sector is not meaningful. Therefore, this sector profile only examines the most recent year of data and does not show any long-term trend information.

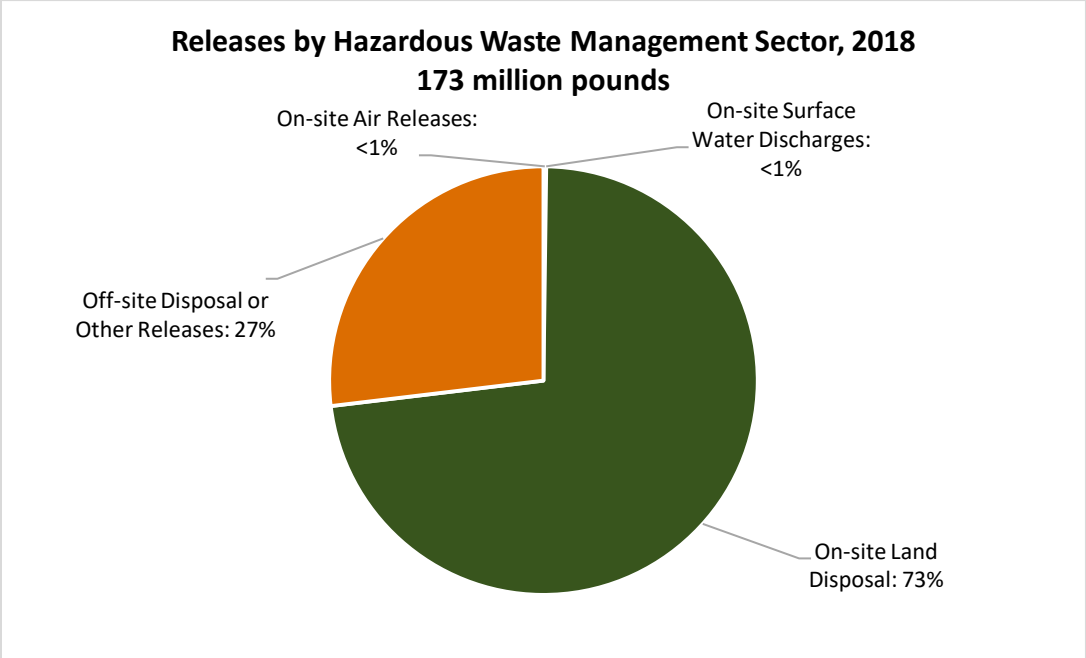
Hazardous Waste Management Sector Waste Management

The quantity of waste managed and released by hazardous waste management facilities depends on the quantity of waste received from their customers. The following pie chart shows how hazardous waste management facilities managed waste, as reported to TRI for 2018.



Hazardous waste management facilities managed most of their TRI chemical waste through the preferred methods of treatment, recycling, and energy recovery, while 28% was released. This is comparable to other recent years, when about 70–80% of production-related waste managed by the sector was managed through the preferred methods of treatment, recycling, and energy recovery.

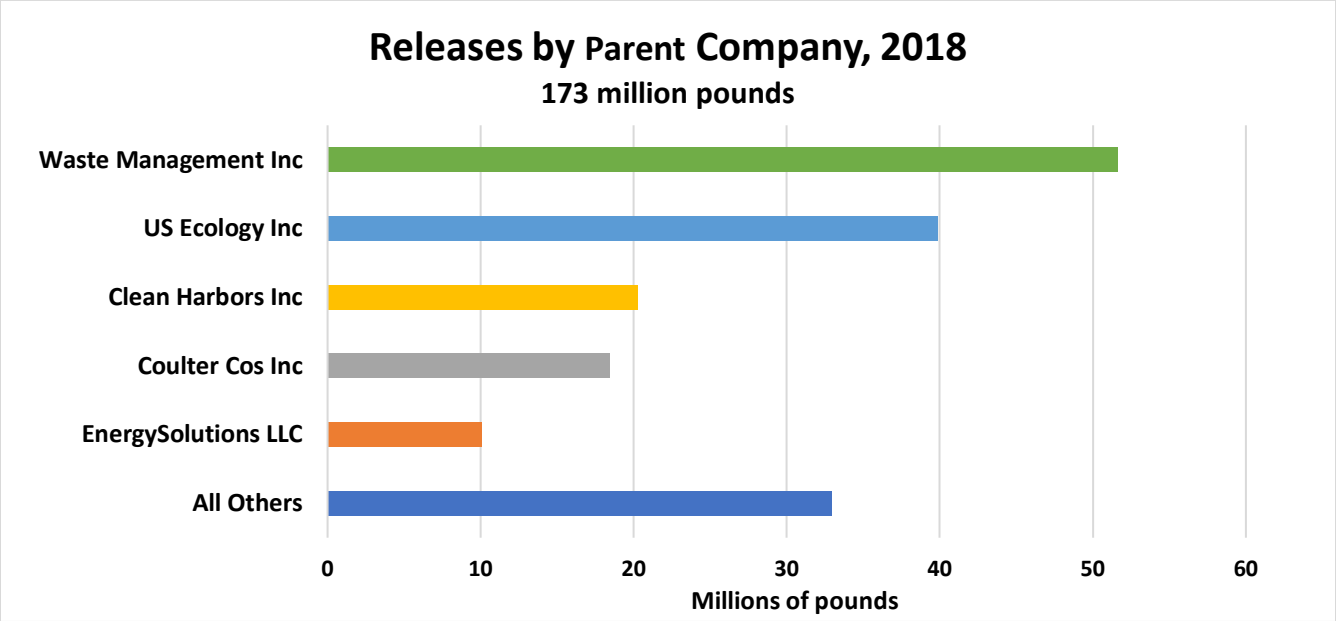
Hazardous Waste Management Sector Releases



- Most of the sector's releases (145 million lb, 83%) were of metal and metal compounds which cannot be treated. Most of the on-site land disposal was to landfills, primarily landfills that are regulated by subtitle C of the Resource Conservation and Recovery Act.

Releases by Parent Company

Releases in the hazardous waste management sector are concentrated in a few parent companies.



Note: This figure uses the standardized TRI parent company name.

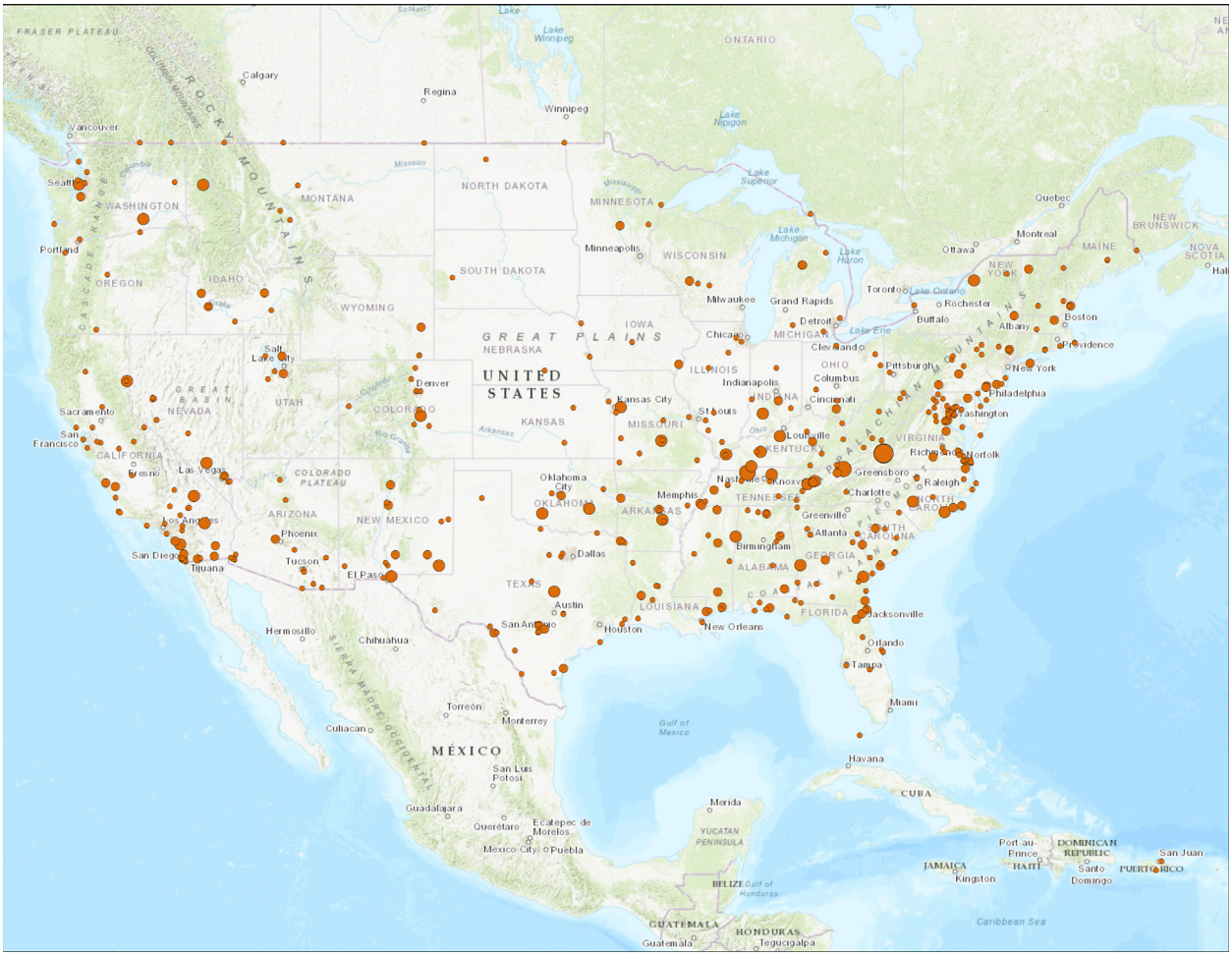
- 5 parent companies accounted for 81% of releases from the hazardous waste management sector for 2018.
- To view the number of facilities that reported to TRI for 2018 by parent company, mouse over the bar graph.

Source Reduction in the Hazardous Waste Management Sector:

The nature of hazardous waste management facilities' operations generally does not lend itself to source reduction activities. Hazardous waste management facilities commonly report that the variable nature of received waste streams is a barrier to source reduction. While not considered source reduction, these facilities apply control technologies and environmental practices like recycling and energy recovery to reduce environmental impacts.

Federal Facilities

This map shows the locations of 449 federal facilities that reported to TRI in 2018. Federal facilities are subject to TRI reporting requirements, regardless of the type of operations at the facility as described by their NAICS code. Click on a facility for details on its TRI reporting.



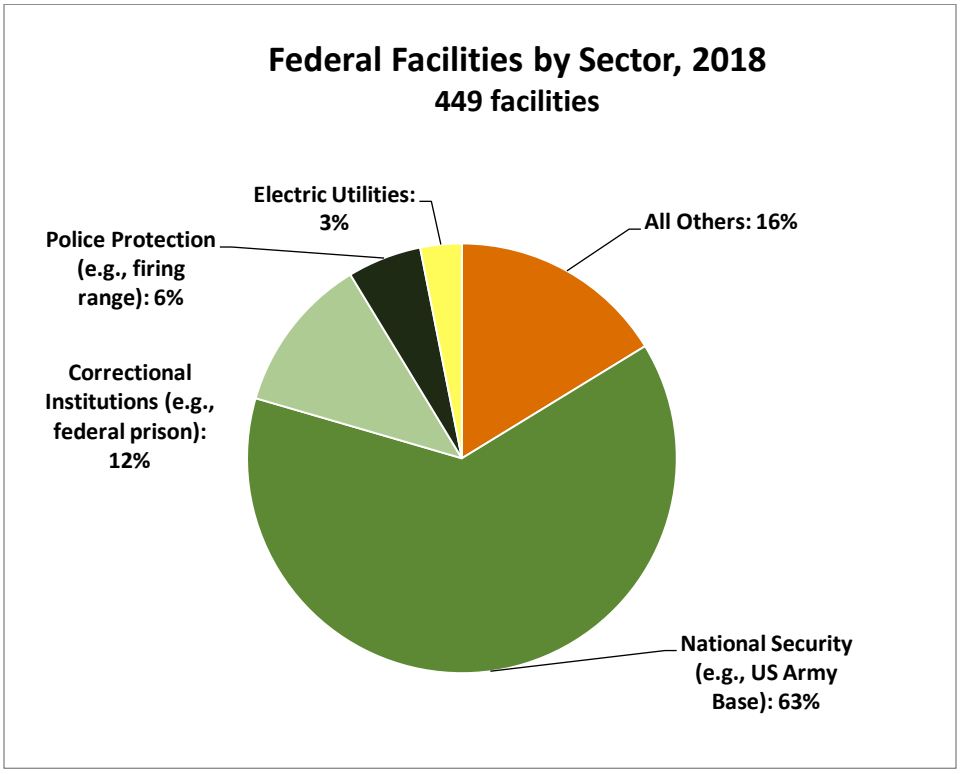
Federal Facilities Reporting to TRI, 2018

View Larger Map

The 1993 Executive Order 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements," established the requirement that all federal facilities, including facilities operated by the EPA, the Department of Defense, and the Department of the Treasury are subject to the TRI reporting requirements, regardless of the type of operations at the facility as described by their NAICS code. This executive order has been reaffirmed by subsequent administrations.

Federal Facilities by Industry

The following chart shows the number of federal facilities reporting to TRI by sector for 2018.



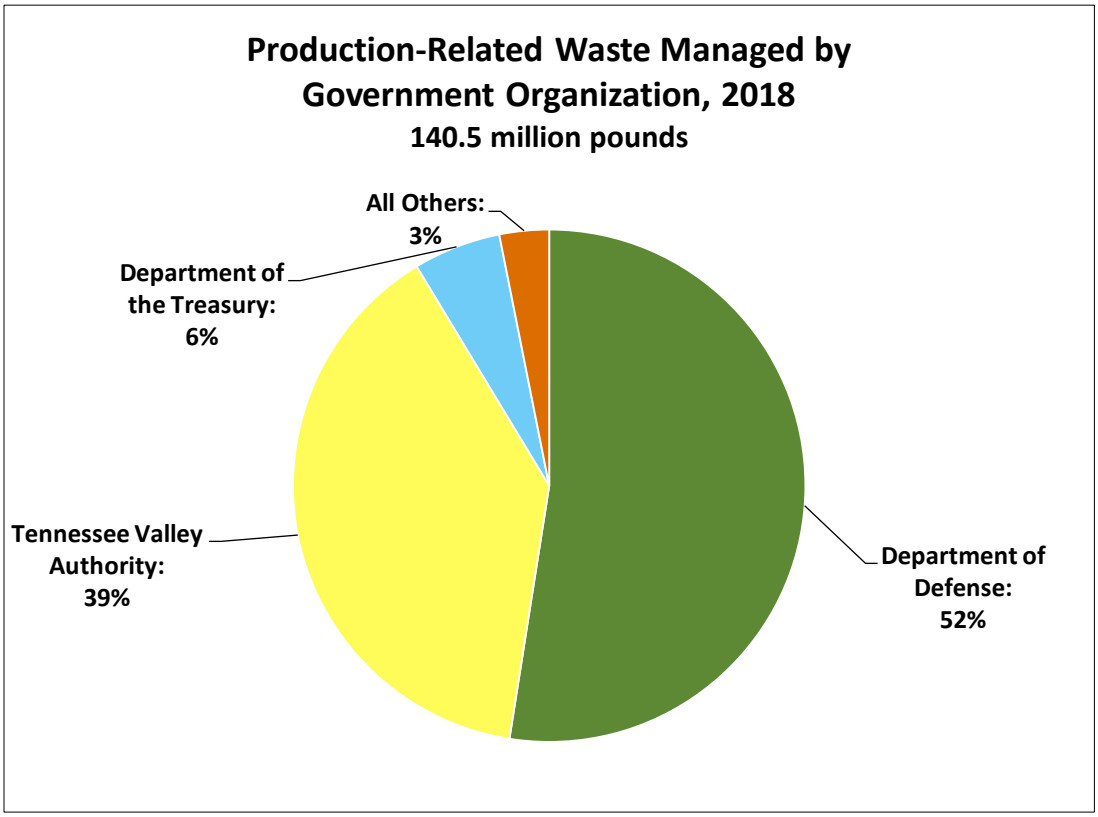
For 2018, 449 federal facilities in 38 different types of operations (based on their 6-digit NAICS codes) reported to TRI. Almost two-thirds of these facilities were in the National Security sector, which includes Department of Defense facilities such as Army and Air Force bases. All federal facilities are subject to TRI reporting requirements regardless of their sector. Therefore, for some industry sectors, the TRI database only includes data from federal facilities. Most federal facilities are in such sectors, including Military Bases (63%); Correctional Institutions (12%); and Police Protection, such as training sites for Border Patrol stations (6%).

As with non-federal facilities, activities at federal facilities drive the types and quantities of chemical waste managed and reported to TRI. Some of the activities at federal facilities that are

captured by TRI reporting are similar to those at non-federal facilities, such as electric utilities. In other cases, federal facilities may report waste managed from specialized activities that are not usually performed by non-federal facilities. For example, all of the federal facilities included under Police Protection and Correctional Institutions only reported for lead and lead compounds, likely due to the use of lead ammunition on firing ranges at these facilities.

Waste Management by Federal Facilities

The following pie chart shows the percentages of TRI chemicals managed as waste by federal government organizations in 2018.



- The types of waste reported by federal facilities vary by the type of operation.
    - The Tennessee Valley Authority (TVA) is a government-owned electric utility that provides power to southeastern states. Out of the 18 TVA facilities that reported to TRI for 2018, virtually all of the production-related waste comes from the fossil fuel plants that report in the electric utilities sector. Over 80% of their reported waste was hydrochloric and sulfuric acid aerosols which were mostly treated on site.
    - The Department of the Treasury facilities reporting to TRI are mints for manufacturing currency and, accordingly, they report metals (e.g., copper and nickel) to TRI. Almost all of their metal waste was recycled off site.

Source Reduction at Federal Facilities:

Since federal facilities are subject to TRI reporting regardless of their industry sector classification, their operations are diverse and few focus on manufacturing processes. Due to their unique functions, some federal facilities may face challenges in implementing source reduction strategies to reduce chemical waste. For the 2018 reporting year, 18 federal facilities (4%) reported implementing source reduction activities.

Federal facilities have often indicated barriers to reducing use of lead because it is contained in ammunition used at National Security and Park Service facilities. For 2018, several federal facilities reported using green ammuntion in accordance with National Park Service policy to use non-lead ammunition where feasible. To find more examples of federal facilities' source reduction activities and the barriers they face to implementing source reduction, visit TRI's Pollution Prevention Search Tool and select industry sectors such as National Security, Correctional Institutions or Police Protection from the dropdown menu under "search criteria."