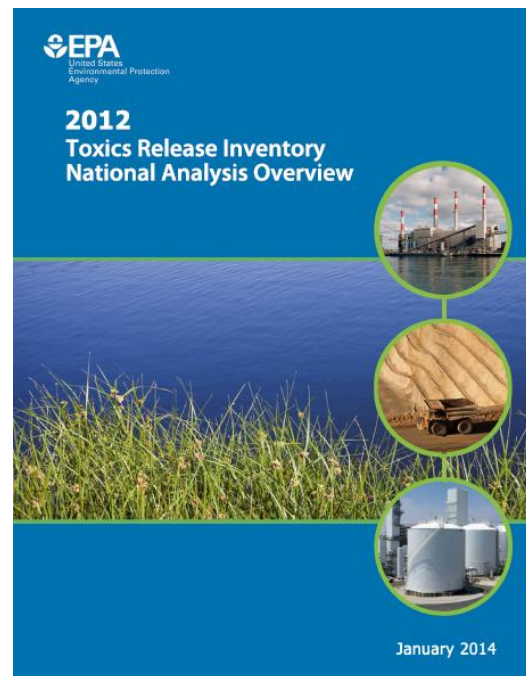




2012 Toxics Release Inventory (TRI) National Analysis Report





2012 TRI National Analysis

- 2012 TRI National Analysis
 - Key messages
 - Long-term trends
 - Releases by environmental media
 - Releases by industry sector
 - Facilities with the largest decreases
 - Persistent, bioaccumulative and toxic chemicals (PBTs)
 - Economic analysis
 - Pollution prevention
- New this year
 - Reporting on hydrogen sulfide
 - Analysis available at a local level
 - Comparing TRI data with data on manufacture/import and use of chemicals
 - Expansion of Greenhouse Gas Reporting Program and TRI comparison
 - Expansion of pollution prevention
 - Reporting in Indian country



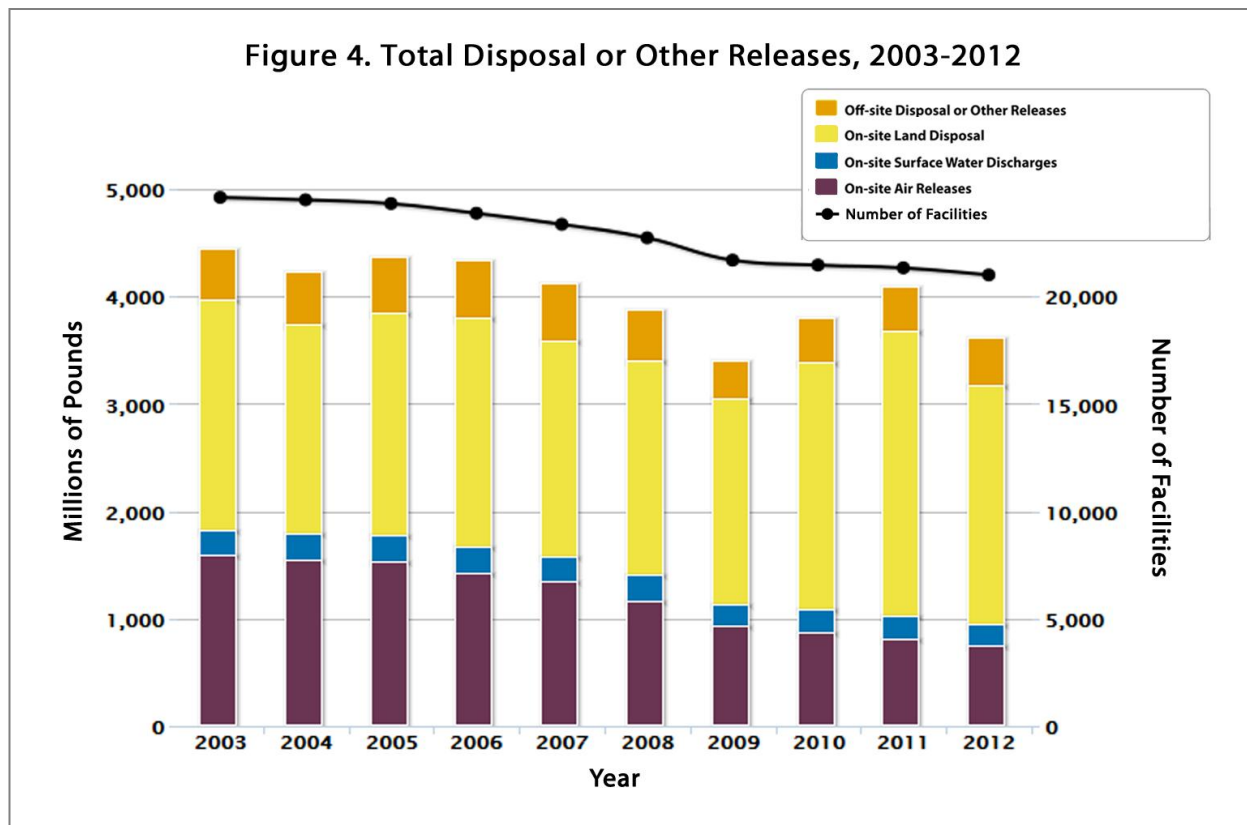
Key Messages for 2012 TRI National Analysis

- Total disposal or other releases of TRI chemicals decreased 12% from 2011-2012
 - Mainly due to decreases in land disposal from metal mines, but other industries also saw decreases including electric utilities and primary metals
 - Some industries saw increases including chemical manufacturing, hazardous waste management and paper
- Air releases decreased, continuing a long-term trend
 - Mainly due to decreases in acid gas releases from electric utilities
 - Data also show a decrease in mercury air releases from electric utilities
 - Decreases mainly due to a shift from burning coal to other fuels and the installation of control technologies at coal-fired power plants



Long-term Trends

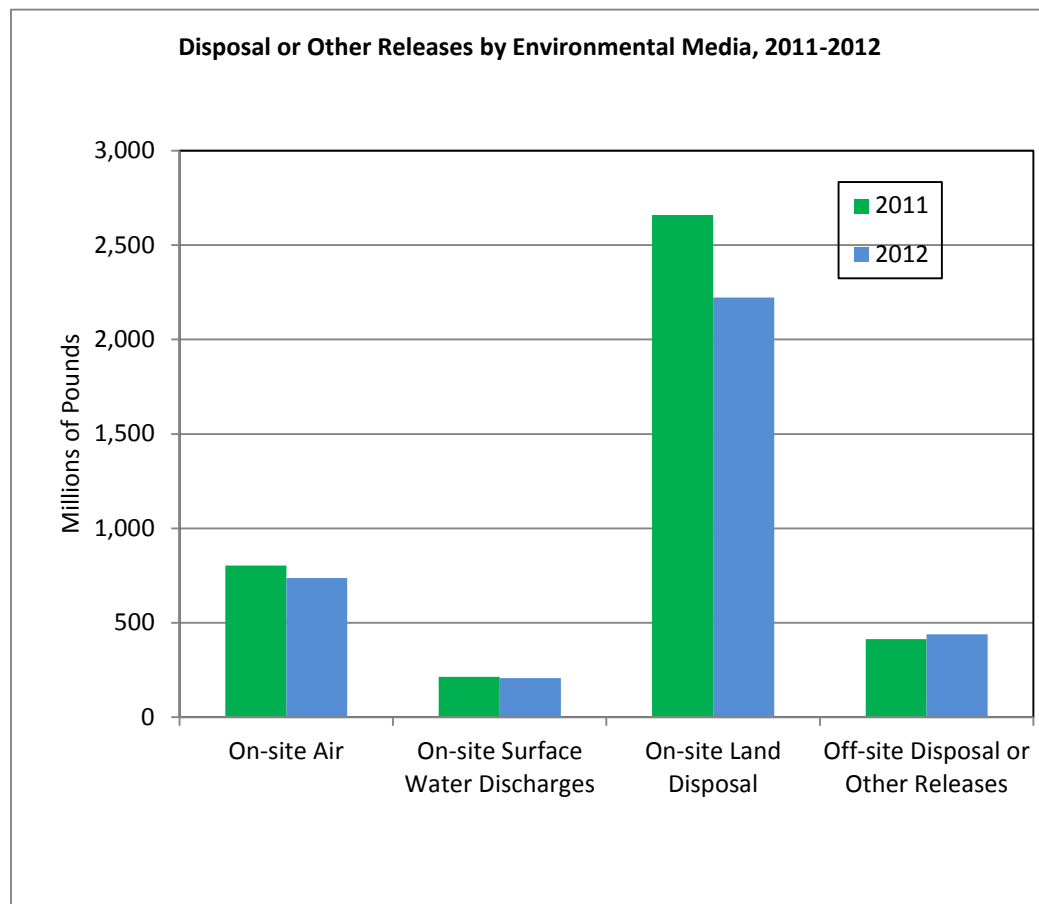
- From 2011-2012 total disposal or other releases decreased by 12% (483 million lbs) - reverses upward trend of last two years





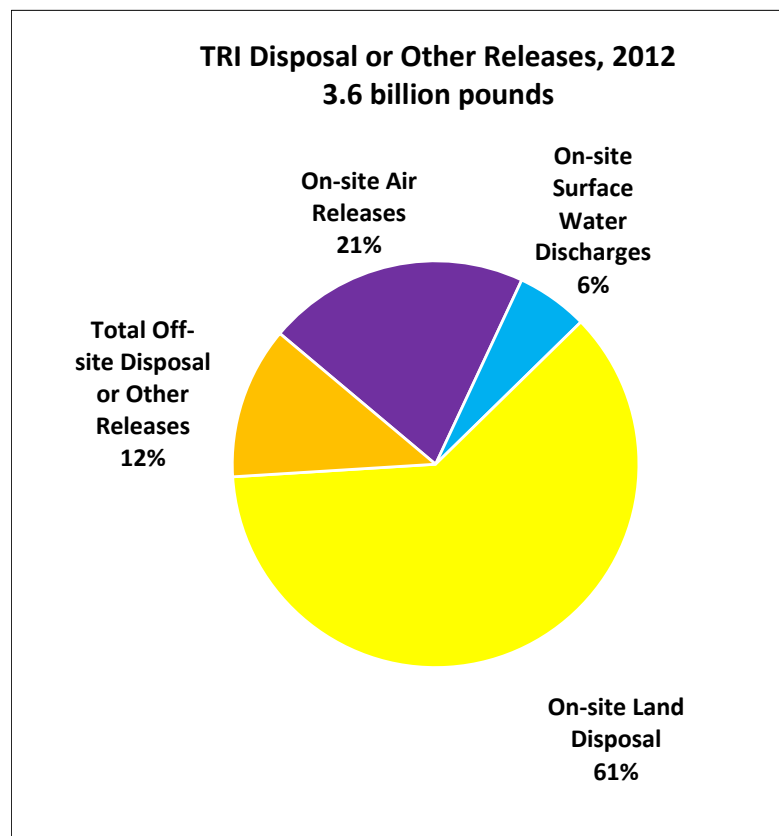
Total Disposal or other Releases by Environmental Media

- Total on-site disposal or other releases decreased 14%
 - Air releases down 8% (about 66 million lbs, mostly hydrochloric acid)
 - Surface water discharge down 3% (about 7 million lbs, mostly nitrate compounds)
 - Land disposal down 16% (about 437 million lbs, mostly lead and arsenic)
- Total off-site disposal or other releases up 6% (about 26 million lbs, mix of chemicals)





Total Disposal or other Releases by Environmental Media

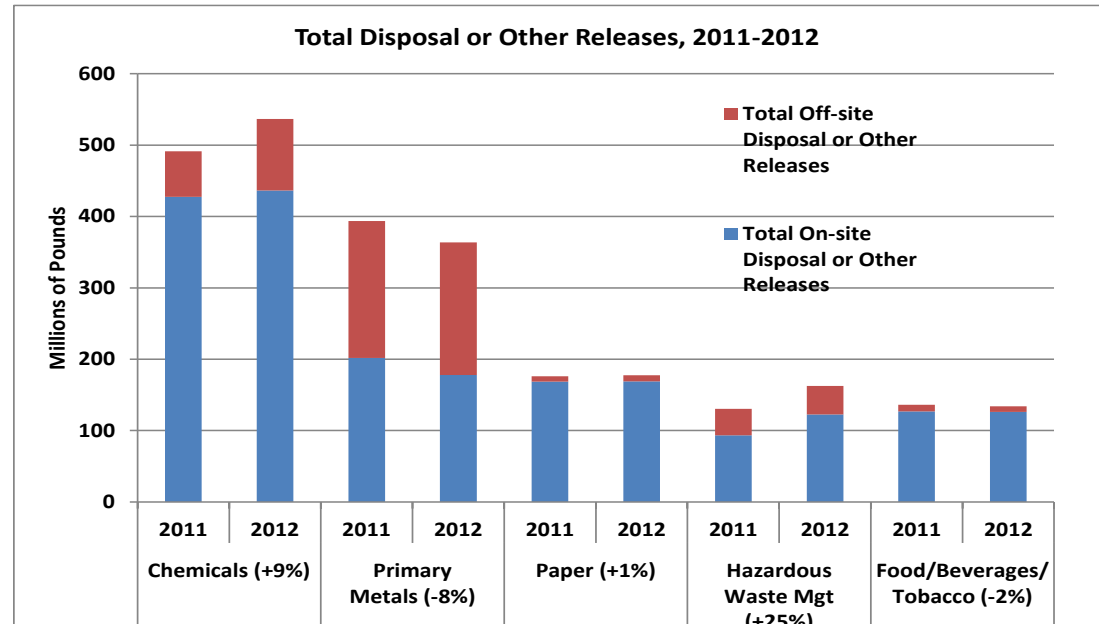
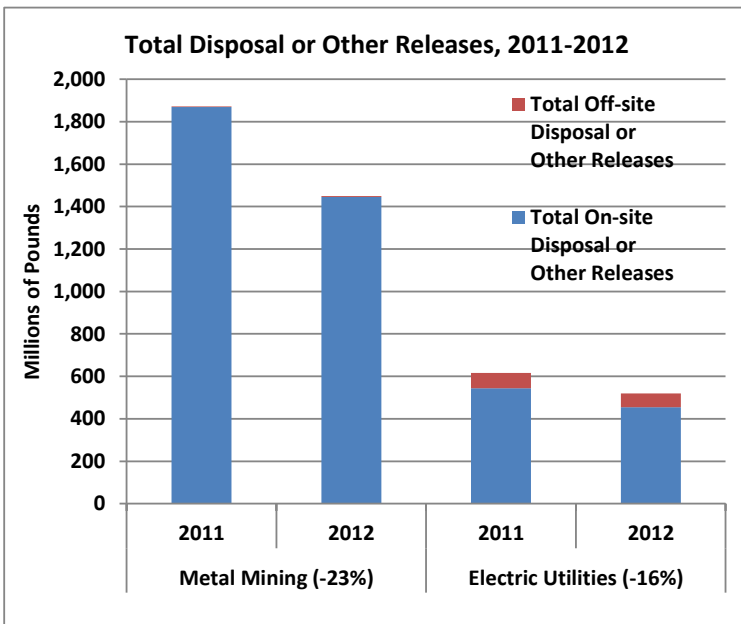




Total Disposal or other Releases by Industry

Change in total disposal or other releases, 2011-2012, for sectors with largest total releases

- Metal mines decreased 423 million lbs (-23%)
- Electric utilities decreased 97 million lbs (-16%)
- Chemicals increased 45 million lbs (+9%)
- Primary metals decreased 30 million lbs (-8%)
- Paper increased 1 million lbs (+1%)
- Hazardous waste management increased by 32 million lbs (+25%)
- Food/beverages decreased 2 million lbs (-2%)





Facilities with the Largest Decreases

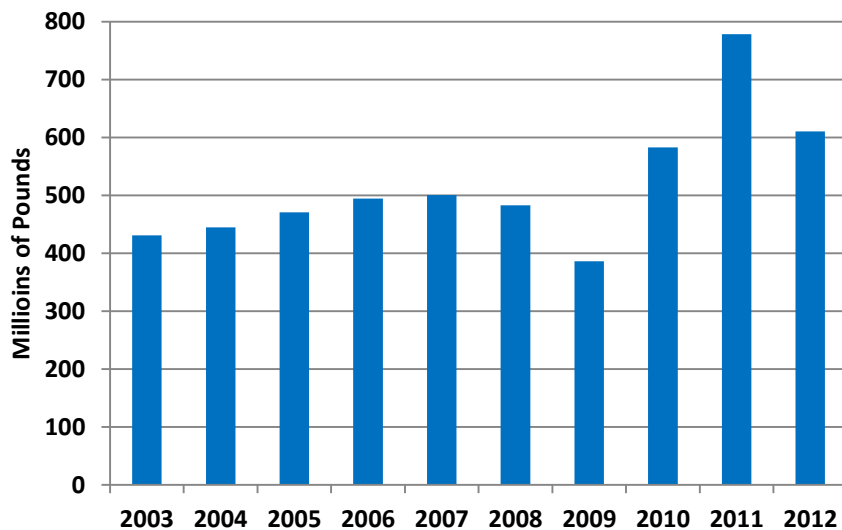
- Facilities with the largest decreases in total disposal or other releases
 - Red Dog mine in Alaska
 - Decrease of 175 million pounds (mainly reduced disposal of lead compounds) due to natural variation of compounds in ore
 - Production also decreased slightly
 - Bald Mountain Mine in Nevada
 - Decrease of 85 million pounds due to no report for arsenic for 2012
 - *de minimis* exemption used in 2012, not in 2011



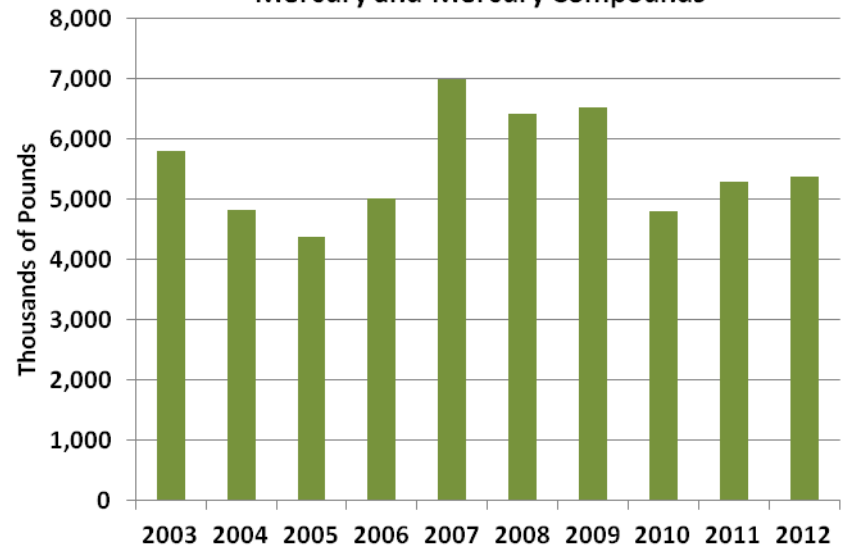
Total Disposal or other Releases of Persistent, Bioaccumulative and Toxic (PBT) Chemicals

- Total releases of lead and lead compounds decreased 22% from 2011-2012 mostly mining land disposal, but air releases increased by 12%
- Total releases of mercury and mercury compounds up 2%, but air releases decreased 10%

Total Disposal or Other Releases, 2003-2012:
Lead and Lead compounds



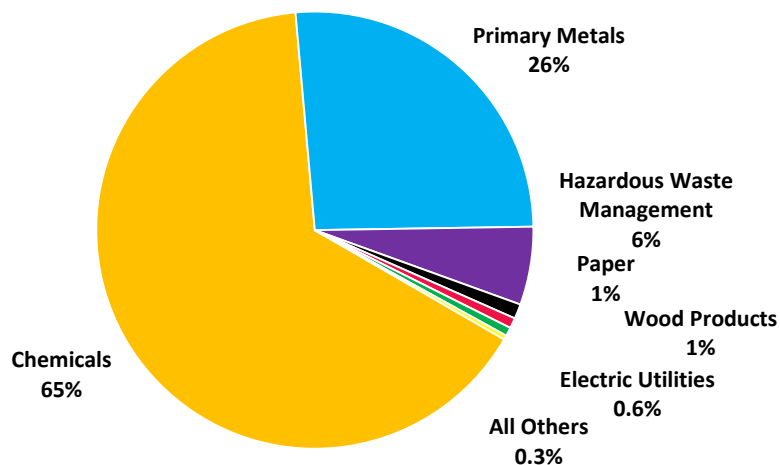
Total Disposal or Other Releases, 2003-2012:
Mercury and Mercury Compounds



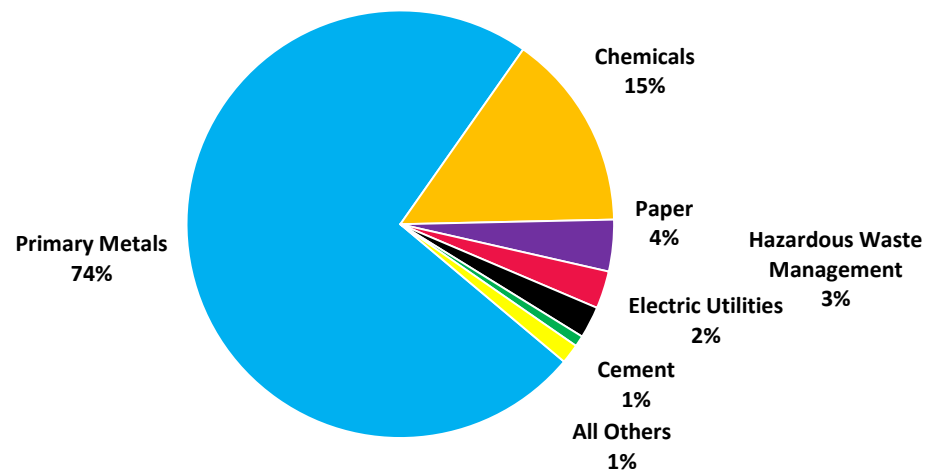


Total Disposal or other Releases of PBT Chemicals

Grams
Percent of Total Disposal or Other Releases,
Dioxin and Dioxin-like Compounds, 2012



Grams-TEQ
Percent of Total Disposal or Other Releases,
Dioxin and Dioxin-like Compounds, 2012



- Releases of Dioxin and Dioxin-like compounds
 - Total disposal or other releases about 58,672 grams for 2012
 - Total increased 8% (about 4,116 grams) from 2011 (primarily due to increases at a Utah primary metals facility)
 - Air releases decreased 9% (about 115 grams) from 2011
 - Note the difference between dioxin grams and dioxin toxicity equivalence (TEQs) by sector in the graphs above



Economic Analysis

- Comparing releases to production measures for 2003-2012 (see appendices for more information)
 - Manufacturing sector
 - Releases decreased 23%, and production decreased 5% since 2003
 - Analysis suggests factors other than production play a big role in decreasing TRI releases
 - Metal mining sector
 - Releases increased 17%, but production decreased 3% since 2003
 - Analysis suggests factors other than production play a big role in increasing TRI releases (changes in composition of ore and waste rock)
 - Electric utilities sector
 - Releases decreased 52%, and production decreased 26% since 2003
 - Analysis suggests that until 2008 factors other than the economy played a big role in reducing TRI releases, and since 2008 production is playing a bigger role
 - Electricity production at commercial power plants in the US has increased from 2003-2012, but production using TRI covered fuels has decreased partially due to a movement from coal to other fuels



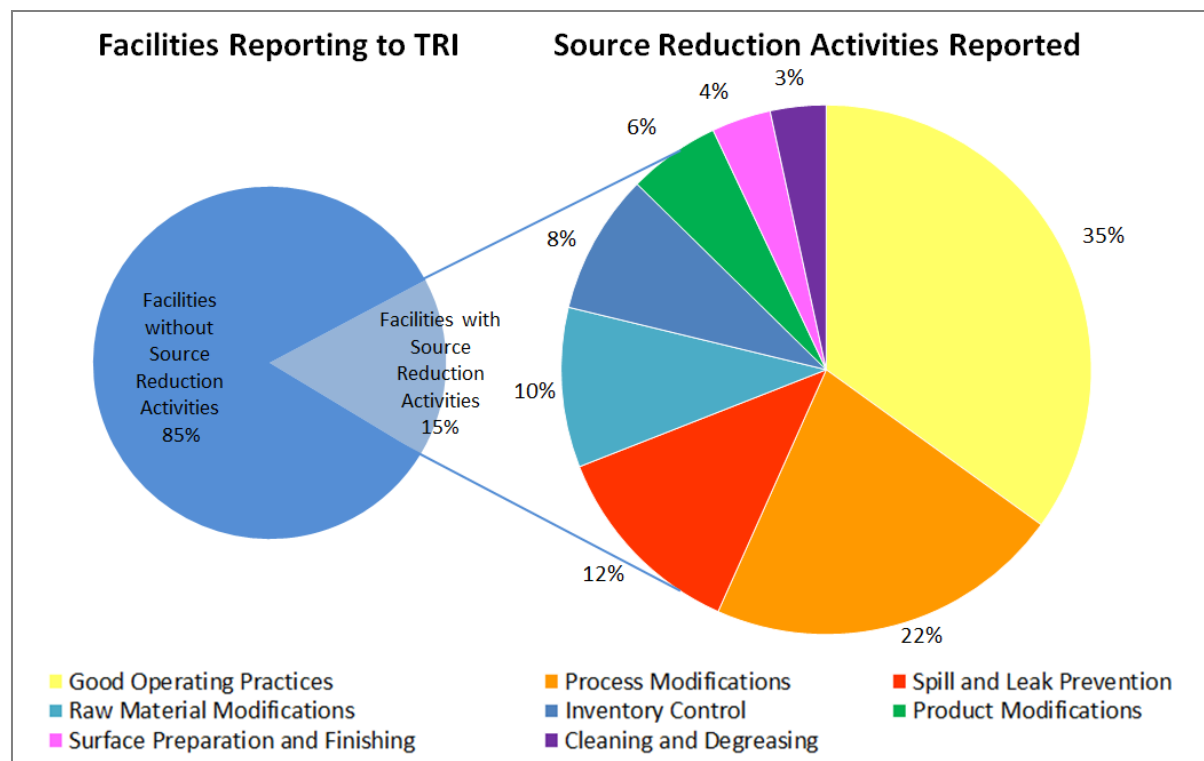
Pollution Prevention

Examples of P2 in the National Analysis

- Source reduction activities by category, chemical, industry
- Method facilities used to identify source reduction activity
- More detailed explanations from Section 8.11 of TRI From R

New in P2 analyses this year:

- Highlighting P2 activities for sectors and chemicals with greatest reductions in releases
- Links to P2 tool will offer more info on P2 examples
- New Green Chemistry Codes were almost 4% of all source reduction activities reported; result of a collaboration with OPPT



Note: These source reduction activities were initiated in 2012 only.



New This Year

- First year of TRI reporting on hydrogen sulfide
 - Added to the TRI chemical list in 1993. An Administrative Stay in 1994 deferred reporting while EPA completed further evaluation of the chemical. EPA lifted the stay in 2011.
 - 484 facilities reported hydrogen sulfide to TRI in 2012
 - 25.8 million pounds of hydrogen sulfide reported, mainly in the form of releases to air from paper, petroleum, and chemical manufacturing facilities

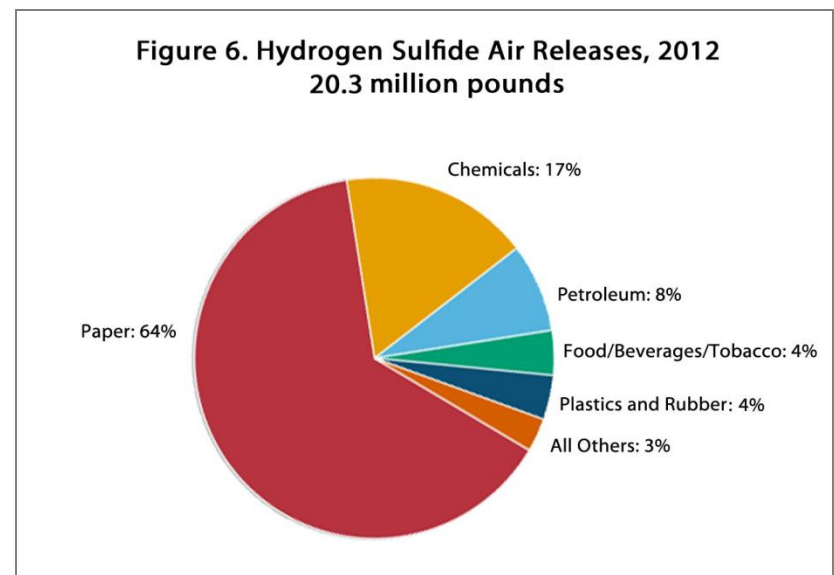
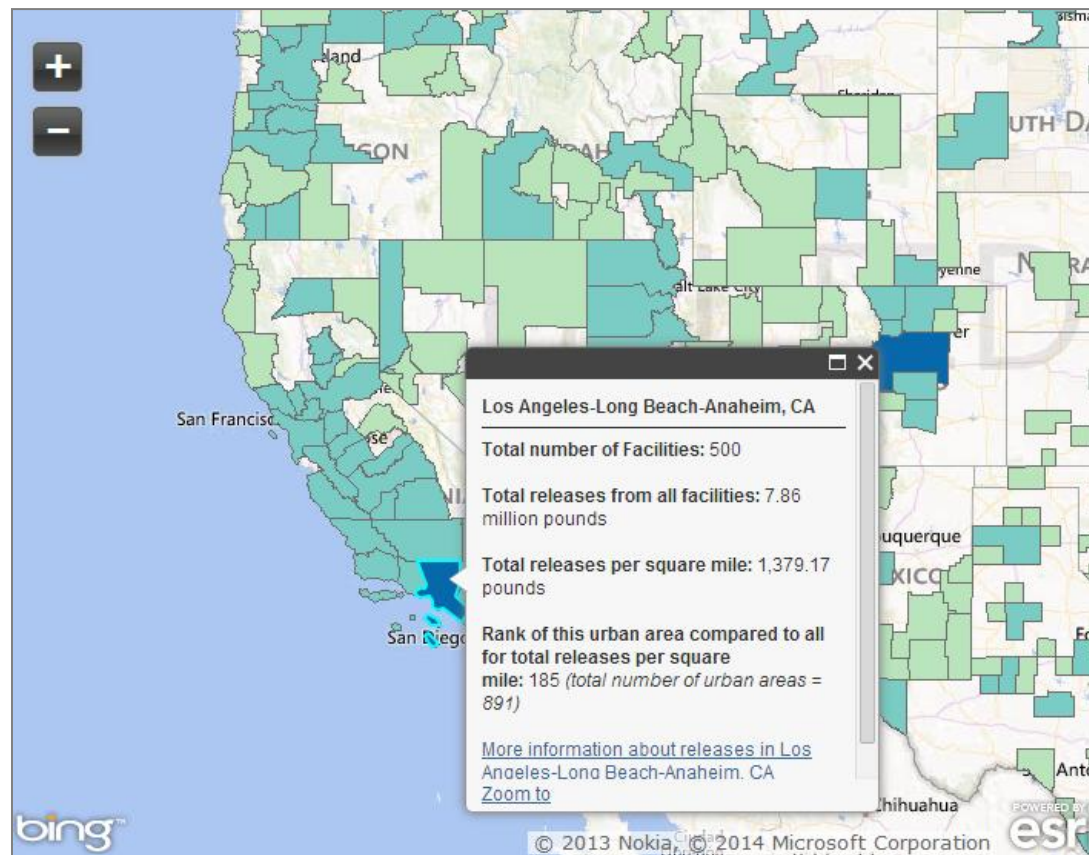


Figure from the 2012 TRI National Analysis Overview document



New This Year

- Expanded focus on communities via use of EPA's geo-platform - users can see TRI data analysis for each U.S. metropolitan and micropolitan area





New This Year

- Comparison of Chemical Data Reporting (CDR) data and TRI data
 - Provides a more complete picture of chemical manufacture/import and use
- Expansion of Greenhouse Gas Reporting Program and TRI comparison
 - Compares 2011 and 2012 data
- Reporting on “green chemistry” source reduction activities
 - Facilities could give more detailed descriptions of steps taken to reduce pollution at the source by using new reporting codes.
- Major expansion of TRI P2 Search Tool in Envirofacts
 - Can now graphically compare facilities within the same industry using a variety of environmental metrics
 - Easier than ever to track industry progress towards the goals of the Pollution Prevention Act and identify effective P2 practices



New This Year

- Reporting in Indian country
 - Each facility located in Indian country is required to submit TRI reports to EPA and the appropriate tribe, rather than to the state in which the facility is geographically located.
 - EPA finalized this requirement in a 2012 rule aimed at increasing tribal participation in the TRI Program.



Contact Information

For questions about the National Analysis or TRI
in general e-mail tri.help@epa.gov

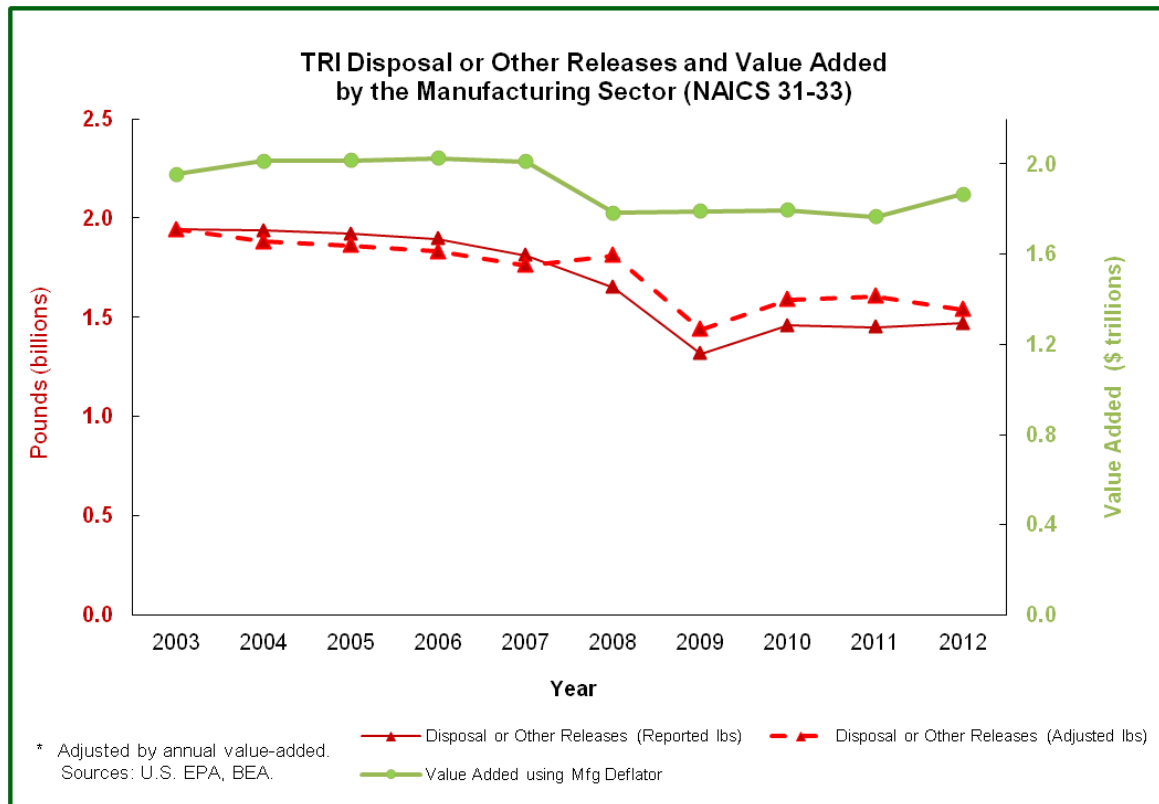
or

contact Kara Koehn,
2012 TRI National Analysis staff lead
at Koehn.Kara@epa.gov
202-566-0310



Appendix 1: Manufacturing Production

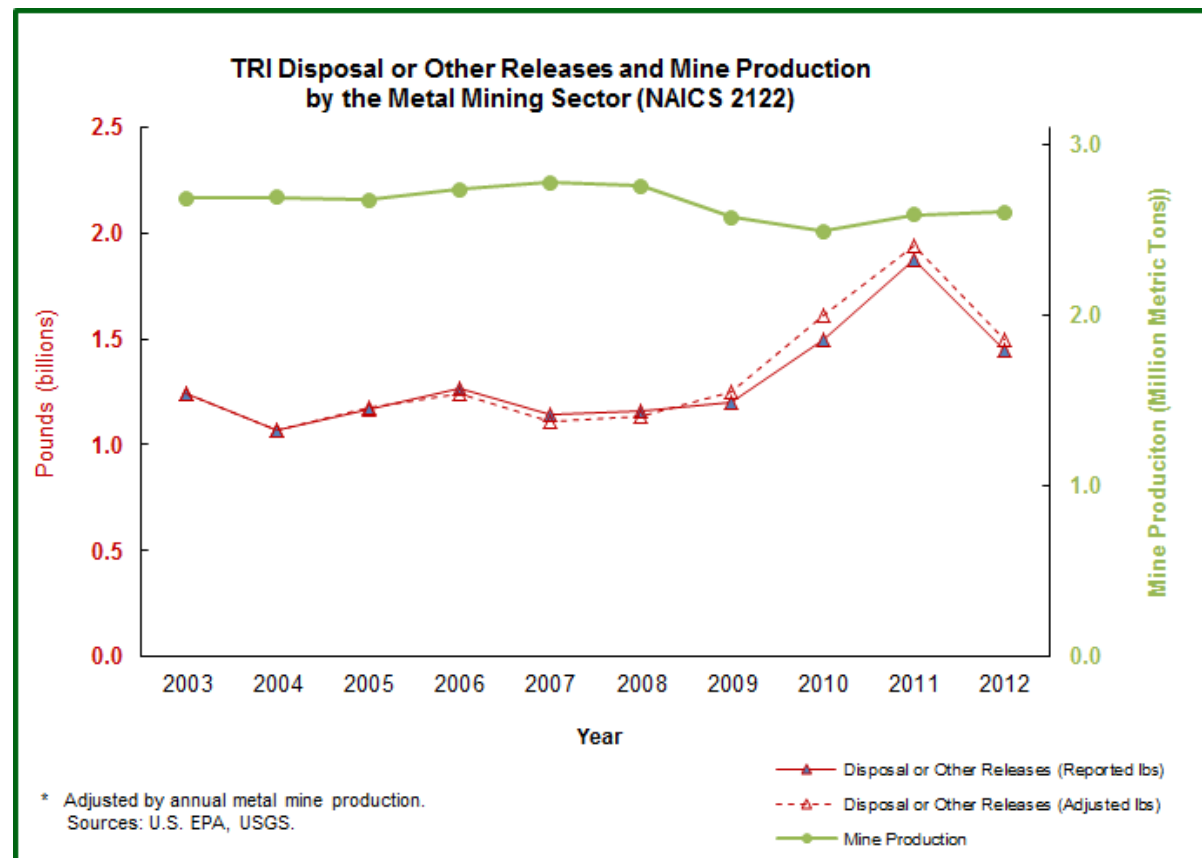
- Economics analysis: Manufacturing
 - Disposal or other releases decreased 23% since 2003
 - Value added, an estimate of production, decreased 5% since 2003
 - Releases have decreased more than production has decreased
 - Dotted line is disposal or other releases normalized to value added
 - Small difference between normalized and observed releases suggests factors other than the economy play a big role in reducing TRI releases
 - Other factors: a reduction in chemical use; a shift to other management methods, such as recycling and treatment of chemicals; a gradual decrease in the number of facilities reporting to TRI; a change in the composition of raw materials





Appendix 2: Metal Mining Production

- Economics analysis: Metal Mining
 - Disposal or other releases increased 17% since 2003
 - Mine production, an estimate of production, decreased 3% overall since 2003 but increased 1% from 2011-2012
 - Dotted line is disposal or other releases normalized to mine production
 - Small difference between normalized and observed releases suggests factors other than the economy play a big role in increased TRI releases





Appendix 3: Electric Utilities Production

- Economics analysis: Electric Utilities
 - Disposal or other releases decreased 52% since 2003
 - Net generation, an estimate of production, decreased 26% since 2003
 - Dotted line is disposal or other releases normalized to net generation
 - Small difference between normalized and observed releases suggests factors other than the economy play a big role in reducing TRI releases until 2008.
 - Indicates fewer releases per kwh after 2008

