DTE Electric Company

2020 Toxics Release Inventory Report

Community Right-to-Know

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About the Toxics Release Inventory

The Toxics Release Inventory (TRI) is a publicly available database of information on the release and transfer of nearly 650 chemicals by private companies and government facilities. Congress created TRI under the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA) and the U.S. Environmental Protection Agency (EPA) administers the program. In May 1997, electric utilities were added to the list of manufacturing industries required to report TRI data to the EPA. Reports are generated once per year for the previous year's emissions. The inventory covers air emission, water discharge, releases to land and amounts transferred to disposal facilities.

All TRI report data is available on the EPA's website: www.epa.gov/tri.

Commitment to the Environment

DTE Energy is committed to minimizing its impact on the environment, developing cleaner ways to produce energy, helping customers use energy more efficiently, and partnering to enhance the environment for plants, animals and people.

Assuring DTE Energy's power plants, electrical distribution system and other operations meet all environmental regulations is the starting point for the company's commitment to environmental stewardship. When possible and practical, DTE Energy goes beyond regulations to adopt practices that provide additional environmental benefits.

Currently, more than 30 DTE Energy facilities have received Wildlife Habitat Council certification for improving their grounds to support native wildlife. Also, DTE Energy has planted more than 20 million trees throughout Michigan to enhance parks, restore forests, and remove carbon dioxide from the atmosphere.

DTE Electric Company (DTE Electric) is a subsidiary of DTE Energy. For more information on DTE's corporate citizenship, visit dtecitizenship.com.

How to Interpret the Data

DTE Electric's TRI releases appear large due to land disposal volumes. Chemical releases reported do not represent the chemical concentrations as they occur in the environment.

- In the TRI program, a "release" is defined as a chemical that is emitted to the air, discharged to the water or managed for disposal. DTE Electric's air and water releases to the environment are smaller compared to the managed land releases. The land management accounts for putting the coal combustion by-products into managed landfills.

All DTE Electric power plants operate in compliance with state and federal emissions and discharge regulations.

- DTE Electric is committed to protecting the public health and the environment in its power plant operations. As a baseline, DTE ensures all plants comply with state and federal regulations governing releases to the air, land, and water. Beyond that, each power plant has voluntarily developed a site-specific environmental management plan and earned ISO 14001 certification. In addition, most operating power plants have earned Clean Corporate Citizen designations from the Michigan Department of Environment Great Lakes and Energy (MI EGLE). This designation recognizes facilities that are top performers in environmental management and stewardship.

TRI data does not measure human exposure or provide health information.

- The U.S. EPA has listed approximately 650 chemicals and chemical substances on the TRI list. These chemicals, like many others not on the list, can potentially cause harm depending on a person's exposure or dose. Dose relates to exposure time and concentration. For example, exposure to ultraviolet rays from the sun can be harmless, cause mild-to-serious sunburn or even potentially lead to fatal disease such as skin cancer.
- The U.S. EPA's TRI reports do not include dose information and therefore do not provide the public with health information. Per the EPA, the TRI information is not designed to show if chemical releases pose potential health or environmental hazards. Rather, the reports divulge how many pounds of chemicals companies release onsite and transfer to offsite disposal facilities.

Power plant emissions will vary from year to year based on coal consumption and element concentrations in the coal.

- In 2020, DTE Energy generated about 49.7% of its electricity at five coal-fired power plants, 10% from renewable wind and solar energy sources, and the remainder from nuclear power, oil, natural gas, and hydro. While DTE Energy increases its use of renewable energy sources, the company continues to use coal because it has proven to be an economic, domestically available and abundant fuel.
- DTE Electric obtains coal from dozens of mines, and the coal from each mine has a unique mix of trace elements that are the source for chemicals reported in the TRI data. Generally, TRI releases at each plant will vary due to trace elements in coal and volume of coal burned each year.
- Power plants are taken in and out of service for repairs or to accommodate generation needs. Because releases are reported in pounds, not percentages of power produced, releases will fluctuate from year to year depending on how much power each plant produces.

DTE Energy is committed to the generation of electricity in an environmentally responsible manner.

- DTE Electric has long been an innovator in using pollution control technologies. For example, the company used electrostatic precipitators as early as 1924 and is among the world leaders in blending low-sulfur coal. DTE Electric continues to invest in new technology and has spent nearly $2 billion to install equipment at the Monroe Power Plant to control emissions of sulfur dioxide, nitrogen oxides, mercury and hydrogen chloride. The company has also invested about $250 million in dry sorbent injection systems at Belle River, St. Clair, River Rouge, and Trenton Channel power plants to meet the 2016 mercury and acid gas limits.
- The TRI includes a category of releases to land. It's important to note that these land releases involve disposal of material into engineered and licensed landfills. By-products from coal combustion are not released uncontrolled to the environment.
- To reduce land releases, DTE Electric actively recycles fly ash from several power plants for use as a concrete additive.

2020 Summary

DTE Electric's 2020 emissions decrease 29% from 2019.

Overall, DTE Electric's emission releases, reportable under the U.S. EPA's TRI, decreased 2%, or 2,243,000 pounds, in 2020 compared to 2019, while the total amount of coal consumed by the plants decreased by 30%.

Air releases decreased 55%, or 0.74 million pounds due to decreased coal consumption. The flue gas desulfurization and selective catalytic reduction systems at Monroe Power Plant continues to neutralize hydrogen chloride, hydrogen fluoride, and sulfuric acid gas releases by 97%, 94%, and 85%, respectively. Managed land volumes decreased 24%, or 1.5 million pounds, due to decreased coal consumption. Water releases decreased by 21%, or 11,700 pounds, this is proportionate to decrease water volume discharges to lakes and rivers.

2020 Total Plant Emissions

Power Plant	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Belle River	1,094,194	51,363	1,039,556	3,274.9
Fermi II	1,492.60	0.00	1,492.60	0
Greenwood	NA	NA	NA	NA
Monroe	3,255,855	506,239	2,711,273	38,343.2
River Rouge	52,577	7	52,510	60.1
St. Clair	962,257	46,515	914,489	1,252.3
Trenton Channel	95,885	3,293	92,112	480.0
RY 2020 Total	5,462,261	607,417.2	4,811,433	43,410.4
System Total, Change over 2019, %	-29.1%	-54.9%	-23.7%	-21.2%
System Total, Change over 2019, Pounds	(2,243,208)	(740,588)	(1,490,925)	(11,696)
RY2019 Total	7,705,469	1,348,004.7	6,302,358	55,106.2

Note: Greenwood's emissions were below the TRI reporting thresholds for reporting year 2020

2020 Releases by Plant

Belle River Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	963,540	640	960,000	2,900
Benzo(g,h,i)perylene	0.54	0.14	0.40	0.00
Chromium Compounds	7,535	77	7,400	58
Copper Compounds	17,124	100	17,000	24
Dioxin[1]	0.93132	0.93132	0.0	0.0
Hydrogen Chloride	24,000	24,000	NA	NA
Hydrogen Fluoride	5,200	5,200	NA	NA
Lead Compounds	3,817.79	43.68	3,765.97	8.14
Manganese Compounds	25,342	182	25,000	160
Mercury Compounds	116.13	34.75	78.67	2.71
PACs[2]	13.59	2.84	10.75	0.00
Sulfuric acid	20,000	20,000	NA	NA
Vanadium Compounds	17,095	93	17,000	2
Zinc Compounds	10,410	990	9,300	120
TOTAL TRI ***(except Dioxin)***	1,094,194	51,363	1,039,556	3,275

Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds

Fermi II Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Released)*	Water *(Pounds Discharged)*
Lead	0.90		1,492.60	NA

Greenwood Energy Center

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
NA[1]				

Notes: [1] For 2020 Greenwood Energy Center did not exceed TRI reporting threshold

Monroe Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Ammonia	27,480		0	480
Arsenic Compounds	13,603	73	13,000	530
Barium Compounds	1,608,450	950	1,600,000	7,500
Chromium Compounds	37,960	190	37,000	770
Copper Compounds	47,450	220	47,000	230
Dioxin[1]	2.4256	2.4256	0	0
Hydrogen chloride	58,000	58,000	NA	NA
Hydrogen fluoride	22,000	22,000	NA	NA
Lead Compounds	16,880.85	97.67	16,760.20	22.98
Manganese Compounds	79,213	233	78,000	980
Mercury Compounds	535.39	38.12	497.07	0.20
Nickel Compounds	250,930	500	250,000	430
PACs[2]	23.15	7.15	16.00	0.00
Selenium Compoutnds	16,800	1,400	11,000	4,400
Sulfuric acid	420,000	420,000	NA	NA
Vanadium Compounds	622,530	530	600,000	22,000
Zinc Compounds	61,000	2,000	58,000	1,000
TOTAL TRI ***(except Dioxin)***	3,282,855	506,239	2,711,273	38,343

Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds

River Rouge Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	52,066		52,000	60
Benzene	6	5	1	0
Lead Compounds	498.43	0.8	497.5	0.05
Mercury Compounds	12.60	1.2	11.4	0.00
TOTAL TRI	52,583	7	52,510	60

St. Clair Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	841,580	480	840,000	1,100
Benzo(g,h,I)perylene	0.11	0.06	0.05	0.00
Chromium Compounds	8,287	40	8,200	47
Copper Compounds	16,071	50	16,000	21
Dioxin[1]	0.3823	0.3823	0	0
Hydrogen chloride	26,000	26,000	NA	NA
Hydrogen fluoride	3,400	3,400	NA	NA
Lead Compounds	4,210.81	22.66	4,182.90	5.25
Manganese Compounds	21,152	120	21,000	32
Mercury Compounds	112.37	10.28	102.00	0.09
Nickel Compounds	5.57	1.17	4.40	0
PACs[2]	16,000	16,000	NA	NA
Sulfuric Acid	15,067	41	15,000	26
Vanadium Compounds	10,371	350	10,000	21
Zinc Compounds	841,580	480	840,000	1,100
TOTAL TRI ***(except Dioxin)***	962,257	46,515	914,489	1,252

Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds

Trenton Channel Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	91,565	85	91,000	480
Hydrogen chloride	3,200	3,200	NA	NA
Lead Compounds	1,095.40	7	1,089	0
Mercury Compounds	24.65	1	24	0
TOTAL TRI	95,885	3,293	92,112	480