



## Refinery Flare Fact Sheet



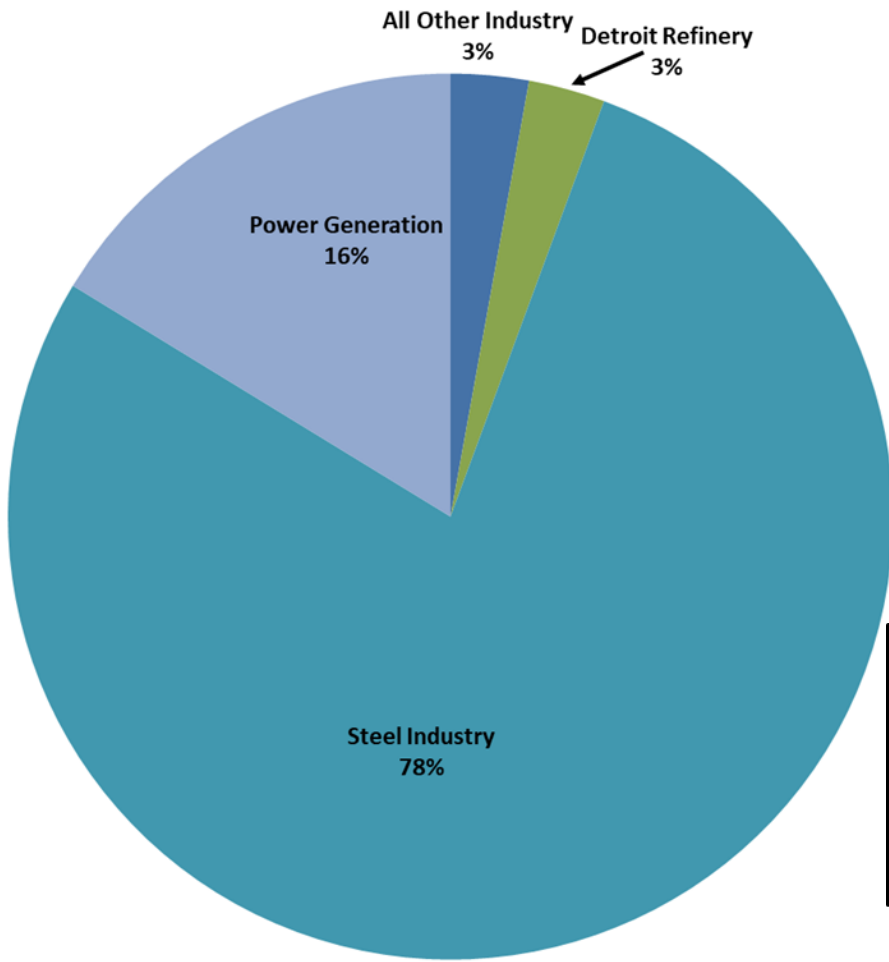
- The Detroit Refinery operates four refinery flares.
- Flares are safety devices primarily used to protect the refinery equipment during unplanned over-pressure events.
- Flares also combust vapors from small, routine refinery sources like pump seals and product samples.
- The refinery flares are regulated by the US Environmental Protection Agency (EPA).
- During normal operation a flame will appear at the tip to ensure combustion of relieved gases at any moment, as required by EPA's regulations.
- At the Detroit Refinery, we partnered with the EPA to implement improved safety measure and lower emissions including:
  - Advanced controls for proper combustion efficiency
  - Multiple flare gas recovery systems that recover gases and send them back to process equipment to minimize flaring
  - Removed a flare from service
- This collaborative effort significantly reduced air pollution at all Marathon Refineries, including Detroit.
- Additionally, EPA was able to share the advancements with other refining companies improving air quality across the country.

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By working with EPA, Marathon helped advance new approaches that reduce air pollution and improve efficiency at its refineries and provide the U.S. with new knowledge to bring similar improvements in air quality to other communities across the nation.

– Cynthia Giles, Former Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance, April 2012

# Air Emissions: 2-Mile Radius of Detroit Refinery



The Michigan Department of Environment, Great Lakes, and Energy provides information to the public about emissions from regulated industries throughout the state, including the Detroit Refinery. In 2016, the latest year for which figures are available, the refinery's emissions comprised about 3 percent of the emissions within a two-mile radius of the area, which is home to several industrial facilities.

- Emissions Measured**
- Nitrogen Oxides
  - Carbon Monoxide
  - Sulfur Dioxide
  - Particulate Matter
  - Ammonia
  - Lead
  - Hydrocarbons (VOCs)

# Detroit Refinery Criteria Air Pollutant Emissions

At Marathon Petroleum Company, we invest hundreds of millions of dollars in technology to enable us to produce fuels and other products cleaner than ever before. In Detroit, our efforts have dramatically reduced our emissions over the years, even as we have increased the amount of crude oil we are able to process.

