

HISTORY OF INDUSTRY IN THE REGION

The presence of industry and industrial facilities defines much of Philadelphia and Delaware County's waterfronts and neighborhoods, reaching back to the 19th century with the Industrial Revolution. In particular, the petrochemical industry has a strong presence within the study area, adding significant environmental concerns around emissions, waste disposal, and industrial incidents or disasters.

Below is a brief overview of the history of industry in the project area and its impact on surrounding neighborhoods in the 19th and 20th centuries. This is by no means comprehensive; instead, this section looks to provide context for the present-day realities of the project focus areas and to ground the work of the Climate Resilient Communities Project.

RISE AND FALL OF INDUSTRY

Industrial development on the Schuylkill and Delaware Rivers began in the mid-19th century, alongside the development of railroads and other freight and passenger transportation complexes. Around this time, the discovery of oil in Titusville, Pennsylvania and the first successful drilling in 1859 opened the pathway for a major oil revolution for Philadelphia, Delaware County, and nationwide.¹

Oil refining and transportation made the Philadelphia region a national oil hub. Standard Oil controlled up to 90% of the U.S.'s refining capacity in the late 19th century and in 1891, 35% of all U.S. petroleum exports came from Atlantic Oil's refinery in Point Breeze (now the former Refinery).² Continued demand for oil led to the Marcus Hook Refinery from Joseph Pew, co-founder of Sun Oil, for refining and resale of Texas crude oil. The need for crude oil byproducts like gasoline, paraffin, and tar in factories, as well as technological advancements like gasoline-powered automobiles, further spurred industrial development and increased the demand for oil production.

The first long-distance transmission pipeline was built in 1865 in the early 20th century, oil lines became public utilities, opening up the oil market and allowing for the increase of crude oil production.³⁴ Both World Wars were

pivotal in the shaping of the industrial landscape in the region. The waterfronts of Delaware County came to be defined by the many industrial and manufacturing facilities that grew and contributed to both World War efforts after securing national defense contracts. Companies like Sun Oil located their shipbuilding facilities in Chester to serve the World War I effort; other facilities included the Baldwin Locomotive Works in Eddystone, Ford Motors' company assembly plant in Chester, American Viscose Company in Marcus Hook, and various oil refineries.⁵ Roads and railways were built to support this new economy, further establishing the area as an industrial hub.

The trajectory of industry in this area somewhat mirrors industry growth in similar areas around the country. Due to advancements in technology, the emergence of competitive markets, and other factors, industry and manufacturing declined and devastated neighborhoods. Chester, once home to various manufacturing industries, suffered from steady economic decline. However, proximity to pipelines and the inertia of specialized storage and distribution infrastructure has ensured that the petrochemical industry has been able to stay in operation in the Philadelphia region with sites like the Trainer refinery still active today.

INDUSTRIAL COMMUNITIES

The growth and decline of industry in the region also defined its many adjacent neighborhoods, including areas in Marcus Hook, Trainer, Chester, and South and West Philadelphia. Compact industrial neighborhoods first originated near industrial facilities when there was a lack of public transportation, making it necessary for workers to live near where they worked. Communities nearby grew as thousands of workers got jobs, like in Marcus Hook where the borough's population peaked at 5,234 during the height of the industrial boom in the 1920s.⁶

Generations of working-class families grew up in the shadow of these industries; however, during industrial decline in the second half of the 20th century, these same neighborhoods faced multiple socio-economic challenges and disinvestment.

In many ways, the deep industrial history of the region remains today and appears indistinguishable from the history of the neighborhoods in the project area. Municipalities like Marcus Hook and Trainer are embedded

in the landscape of the fossil fuel industry while Grays Ferry lives in the shadow of it. Other focus neighborhoods like Eastwick may not present as industrial neighborhoods, but they live in near proximity to industrial facilities like tank farms and brownfield sites, dealing with the same concerns of environmental pollution.

PRESENT-DAY SCARS: BROWNFIELDS AND SUPERFUND SITES

While the vast conglomerate of industrial facilities across the nation and in the Philadelphia region brought about immense technological advancements, they have also left deep scars in the environment and in the communities that lived nearby and helped shape this growth. Lingered brownfield sites and Superfund sites necessitate rigorous cleanup. The complex regulatory environment, funding, timing associated with remediation, and potential community involvement all add challenges to this process.

Given the age of these industrial sites, for decades many industrial facilities, chemical companies, and oil refineries were able to discard their toxic wastes into the air and waters at harmful levels and with little consequence. In the late 20th century, discoveries of toxic waste dumps like Love Canal in New York led the EPA to create the Superfund program, which identifies highly contaminated sites and imposes legal penalties and remediation costs on responsible parties. Highly contaminated sites that would classify as a Superfund include sites like landfills, chemical plants, metalworking facilities, and former military grounds. Around the time that the EPA started the Superfund program, the Philadelphia region had some of the nation's highest concentrations of Superfund sites and by 2015, there were more than 200 registered sites in the area. There are several Superfund sites near the project area, including the Metro Container Corporation site in Trainer, PA, and the Lower Darby Creek Area near Eastwick.

Following the Superfund program's inception in 1980, the EPA began designating brownfield sites in the late 1990s to address vacant land and former industrial sites with legacy contamination. The EPA designates brownfield sites as those with contamination less severe than Superfund sites and with a remediation process that is selected through various federal and state programs. Since many of these former industrial sites were located proximally

to transportation routes (rail, highways, waterways), they have become areas for potential redevelopment, post remediation, into residential or commercial uses. Of the 335 total brownfields in the project area, 203 of them are clustered in Delaware County. Active industrial sites will be the brownfields of the future and will require clear guidance on remediation, especially for formerly heavy industry facilities. The former PES Refinery site is an example of this as the largest remediation and redevelopment effort in the study area.

REGULATORY BODIES

FEDERAL AGENCIES

At the federal level, the EPA is involved with permitting, monitoring, and enforcing various pollution programs related to the environment (air, water, soil). Major 20th century environmental laws enacted by Congress led to the formation of these programs today, of which the EPA has primary implementation authority. These laws include the Clean Water Act (1948, 1972),⁷ the Clean Air Act (1970, 1977, 1990)⁸, Toxic Substances Control Act (1976),⁹ Resource Conservation and Recovery Act (1976),¹⁰ and the Comprehensive Environmental Response, Compensation, and Liability Act (1980).¹¹

STATE AGENCIES

At the state level, the PA DEP oversees, coordinates, and manages EPA grants. The PA DEP is also responsible for enforcing regulations for various facilities under the different programs, such as the Hazardous Waste Program (under the RCRA program), the Water Pollution Control Program (under NPDES), and the Storage Tank Program.

